

TENTATIVE ORDER OF DISCUSSION 2013 PROPOSED CHANGES TO THE INTERNATIONAL RESIDENTIAL CODE – PLUMBING

The following is the tentative order in which the proposed changes to the code will be discussed at the public hearings. Proposed changes which impact the same subject have been grouped to permit consideration in consecutive changes.

Proposed change numbers that are indented are those which are being heard out of numerical order. Indentation **does not** necessarily indicate that one change is related to another. Proposed changes may be grouped for purposes of discussion at the hearing at the discretion of the chair. Note that some IRC code change proposals may not be included on this list, as they are being heard by other committees. Please consult the Cross Index of Proposed Changes.

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RP1 – 13

P2502.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2502.1 Existing building sewers and building drains. ~~Existing *building sewers* and drains shall be used in connection with new systems when found by examination and/or test to conform to the requirements prescribed by this document. Where the entire sanitary drainage system of an existing building is replaced, existing building drains under concrete slabs and existing building sewers that will serve the new system shall be internally examined to verify that the piping is sloping in the correct direction, is not broken, is not obstructed and is sized for the drainage load of the new plumbing drainage system to be installed.~~

Reason: Before the technical reasons for the changes in this section are provided, the PMGCAC wants to readers of PMGCAC proposals to understand that many of our proposals for changing the IRC are focused on language improvements and intent clarity that do not change the meaning of what the 2012 IRC (and earlier editions) have required. Much of the existing language in the plumbing chapters came from the old CABO codes. "Seasoned" code officials knew what this language intended and inspected based upon a wealth of knowledge gathered over the many years of development of those older codes. Our concern is for the newer code officials and inspectors who do not have this experience and more often than not, are being required to enforce the code just as it is written. If the code is not clear, a variety of interpretations result and all users of the code suffer the consequences. The code needs to actually state the intent in clear terms. Even though many people already "know" what is intended by a particular code section and don't think it necessary to make any changes, the development of the codes needs to consider all people who use the codes whether they are experienced or a newcomer. We hope that the readers of the PMGCAC proposals will carefully consider and approve our "editorial proposals" towards making a better code for the future.

Technical reason for Section P2502.1:

Use of "and/or" and "when" in code text is undesirable code format. What kind of "test"? The phrase "requirements prescribed by this document" is vague. Overall, the application of this section is unclear. The revised language provides clear, prescriptive requirements.

Consider a few situations that happen to houses. 1) A slab-on grade house burns down or is wind damaged such that only the remaining slab foundation will be used to re-construct a new building. Re-use of the building drain would be desirable to avoid extensive slab rework. 2) A house is completely razed or the entire plumbing drainage system of a house needs replaced such that only the building sewer remains. Re-use of the building sewer would be desirable to avoid extensive costs and possible complications for replacing the sewer (such as crossing a public street to connect to the public sewer). Why tear out good, serviceable building drains and building sewers for the sake of replacing with new material? The only way to know if existing building drains and existing building sewers are serviceable is to internally examine the piping for problems.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list. For PMGCAC member reference, this was item no.1 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP1-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2502.1-RP-HALL-PMGCAC

RP2 – 13

P2502.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2502.2 Additions, alterations or repairs. Additions, *alterations*, renovations or repairs to ~~any~~ plumbing systems shall conform to that required for a new plumbing system without requiring the existing plumbing systems to comply with all the requirements of this code. Additions, *alterations* or repairs shall not cause an existing system to become unsafe, insanitary or overloaded.

Minor additions, minor alterations, minor renovations ~~and or minor repairs to an existing plumbing systems shall be permitted that are performed~~ in the same manner and arrangement as in the existing system but do not comply with this code, shall not create a hazardous condition and shall require approval by the building official. ~~, provided that such repairs or replacement are not hazardous and are approved.~~

Reason: "Shall be permitted" is not mandatory code language. The existing second paragraph is really an exception to allow "old methods and arrangements", not compliant with the current code, to be used in certain situations that are determined to be not hazardous. For example, a drum trap on a bathtub is not allowed by current code. It's old technology but drum traps are not known to create a hazardous condition. Changing a defective drum trap over to a standard trap arrangement might prove to be very difficult and unnecessarily costly when a replacement with a new drum trap will work. An S-trap arrangement for an existing pedestal lavatory might be the only economical way to provide for a replacement trap to the lavatory because of the physical constraints. The previous S-trap installation worked successfully and is not a hazardous condition. The second sentence in this section provides appropriate relief for repair situations instead of forcing an extensive and costly event for what started off as a simple repair project. The revised language makes the intent clear.

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Cost Impact: The code change proposal will not increase the cost of construction.

RP2-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2502.2-RP-HALL-PMGCAC

RP3 – 13

P2503.4, P2503.4.1 (New), P2503.4.2 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Delete and substitute as follows:

P2503.4 Building sewer testing. ~~The *building sewer* shall be tested by insertion of a test plug at the point of connection with the public sewer and filling the *building sewer* with water, testing with not less than a 10 foot (3048 mm) head of water and be able to maintain such pressure for 15 minutes.~~

P2503.4 Gravity-flow building sewer test. Gravity-flow *building sewer* piping shall be tested in accordance with Section P2503.4.1 or P2503.4.2. Plastic piping shall not be tested using air or gas.

P2503.4.1 Water test. The piping shall be filled with water. Additional water shall be forced into the piping to increase the pressure in the piping by not less than 10 feet of water column (4.3 psi) (30 kPa). The source of pressure shall be isolated and disconnected from the piping except where a standpipe is used to generate the test pressure. Where a standpipe is used to generate the test pressure, water shall not be added to the standpipe during the test observation period. The test shall be successful where there is not any change in pressure gauge indication during an observation period of 15 minutes. The pressure gauge shall comply with the requirements of Section P2503.9.

P2503.4.2 Air test. The piping shall be pressurized with air to not less than 4.3 psi (30 kPa). The air pressure shall be retained in the piping and the air pressure source shall be disconnected from the piping. The test shall be successful where there is not any change in pressure gauge indication during an observation period of 15 minutes. The pressure gauge shall comply with the requirements of Section P2503.9.

Reason: This section needs to apply *only* to gravity flow sewers to distinguish it from the testing requirements for forced flow sewers (another proposal by the PMGCAC. The testing requirements between the two types are vastly different.

Code language should not, in general, include unnecessary "instructions" for the performance of the work. For example, "insertion of a test plug at the point of connection to the..." is unnecessary as the requirement for pressurizing the piping automatically requires that the contractor make the necessary arrangements (such as plugging and capping) to be able to pressurize the piping. To the "public sewer" is inaccurate as a building sewer could terminate at a septic tank, a private sewer or a private waste treatment plant.

The existing code language requires that the "piping maintain the test pressure". This is archaic language because the piping doesn't "maintain" anything. What is intended is that the test pressure in the piping not decrease during the observation period. The code language is revised to more clearly state the condition for a successful test.

A common method for water testing is to attach a standpipe to the piping being tested and filling the piping and the standpipe with water so that the water in the standpipe produces the required test pressure in the piping. The test pressure is easily verified by measuring the height of the standpipe. A "loss of pressure" (indicating a leak) in the system *could* be determined by observing the water level in the standpipe. However, in many cases, observing the water level in the standpipe might require the inspector to climb a ladder to visually see the water level at the top of the standpipe. The inspector is now challenged as to how much of a drop in water level in the standpipe constitutes a test failure? At first, it might be easy to say "none". However, if a pressure gauge is connected to the system to determine pressure loss, the minimum "readability" of the gauge for this pressure range allows for *some* pressure loss (or drop in standpipe water level). For example, Section P2503.9 requires that the pressure gauge have increments of 0.1 psi. Therefore, the gauge can be read to an accuracy of half of the increment or 0.05 psi. In other words, where using a reasonably sized, typical dial pressure gauge, it would be very difficult to observe that the pressure gauge needle moved by an increment less than 0.05 psi. So, by reading a pressure gauge, the amount of pressure drop allowed in the system under test is 0.05 psi. This pressure converts to 1.4 inches of water column. So, theoretically, to be fair and equivalent to the reading of a pressure gauge (such as used for an air test), the water level in the test standpipe could drop 1.4 inches and still be considered acceptable. Some code officials will fail a water test on piping because of a *change in shape of the water meniscus in the standpipe!* This is not realistic, is unnecessarily restrictive and is not what is intended by the code. By requiring that a gauge be used for determining the success of a water test allows for the code official to remain in a safe location (not having to climb ladders) and provides for a reasonable allowance for leakage of a system that essentially experiences no pressure while in service.

Another way to pressurize the piping with water is to force water into the piping with a hydrostatic pump (usually a small hand pump). The current language doesn't seem to consider this method and some code officials might balk at this method just because they think the language requires a 10 foot standpipe full of water to generate the test pressure. The revised language is now open to allow for water pressurization by a pump (typically a hand pump) instead of a standpipe.

A new section for *air testing* of gravity flow sewers is added as there is no technical reason why air cannot be used as a test medium provided that the piping is not of plastic material. Note that the test pressure is 4.3 psi to be the pressure equivalent to 10 feet head of water. In other sections of the current code, air test pressures are stated as 5 psi. As test gauges are required (see Section P2903.9) to have increments of 0.1 psi, there is no need to 'round' the test pressure up to 5 psi so that the pressure can be read on a gauge. For other code sections that use the 5 psi for air testing, other proposals are being offered to change the test pressure to 4.3 psi. There is no need (and it doesn't make sense) to air test at 5 psi when water testing is only required at 4.3 psi (10 feet of water head).

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Cost Impact: The code change proposal will not increase the cost of construction.

RP3-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2503.4-RP-HALL-PMGCAC

RP4 – 13

P2503.4

Proponent: Gary Kozan, CPD, Ridgeway Plumbing, representing Florida Association of Plumbing Heating Cooling Contractors (garyk@ridgewayplumbing.com)

Revise as follows:

P2503.4 Building sewer testing. The building sewer shall be tested by insertion of a test plug at the point of connection with the public sewer and filling the building sewer with water to the highest point thereof, testing with not less than a 10-foot (3048) head of water and be able to maintain such pressure for 15 minutes. ~~The building sewer shall be watertight at all points. Forced sewer tests shall consist of pressurizing the piping to a pressure of not less than 5 psi (34.5 kPa) greater than the pump rating and maintaining such pressure for not less than 15 minutes. The forced sewer shall be watertight at all points.~~

Reason: Subjecting a gravity house sewer to a 10-foot head is both unnecessary and impractical. By the time the building sewer is able to be connected, the plumbing fixtures have often already been installed. That means that both ends of the sewer line must be plugged off in order to prevent the house from flooding. Leaks on house sewers are rare, considering that most are constructed with plastic pipe, are typically short, and contain few fittings and joints. Public sewer mains and branch laterals are not similarly tested.

This revised text is identical to that found in the other model plumbing code (UPC). It acknowledges the difficulties associated with pressure testing house sewers. It would be appropriate for the IRC to adopt this proven method.

This proposal also adds language for testing forced sewers, identical to that found in the IPC.

Cost Impact: This code change proposal will not increase the cost of construction.

RP4-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2503.14-RP-KOZAN.DOC

RP5 – 13

P2503.5 (New), P2503.5.1 (New), P2503.5.2 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Add new text as follows:

P2503.5 Forced-flow building sewer test. A forced-flow *building sewer* shall be tested in accordance with Section P2503.5.1 or P2503.5.1.2. Plastic piping shall not be tested using air or gas.

P2503.5.1 Water test. The piping shall be filled with water and the outlet of the piping plugged. The sewage pump shall be operated, the pump discharge valve shall be closed and the pump shall be stopped. The pressure shall be retained in the piping. The test shall be successful where there is not any change in pressure gauge indication during an observation period of 15 minutes. The pressure gauge shall comply with the requirements of Section P2503.9.

P2503.5.2 Air test. The piping shall be pressurized with air to not less than the maximum discharge pressure of the sewage pump. The air pressure shall be retained in the piping and the source of air shall be disconnected from the piping. The test shall be successful where there is not any change in pressure gauge indication during an observation period of 15 minutes. The pressure gauge shall comply with the requirements of Section P2503.9.

(Renumber subsequent sections)

Reason: The code is silent about the testing of forced-flow building sewers and needs to have this new section to provide direction to installers and code officials. Some people might say “Why use a gauge for water testing? You can see if the piping has leaks” Consider a muddy trench and its raining – how are you going to tell if there are leaks? Using a gauge solves the problems. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list. For PMGCAC member reference, this was item no. 4 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP5-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2503.5 (NEW)-RP-HALL-PMGCAC

RP6 – 13

P2503.5

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2503.5 ~~DWW~~ Drain, waste and vent systems testing. Rough-in and finished plumbing installations of drain, waste and vent systems shall be tested in accordance with Sections P2503.5.1 and P2503.5.2.

Reason: The use of acronyms in code text is undesirable. The section language needs to state what plumbing system requires testing because the section title is not code language. This is a simple editorial cleanup that doesn't change the intent or meaning of this section.

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Cost Impact: The code change proposal will not increase the cost of construction.

RP6-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2503.5-RP-HALL-PMGCAC

RP7 – 13

P2503.5.1, P2503.5.1.1 (New), P2503.5.1.2 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2503.5.1 Rough-in test plumbing. ~~DWV The rough-in piping for the drain, waste and vent systems shall be tested on completion of the rough piping installation by in accordance with Section P2503.5.1.1 or P2503.5.1.2 . Plastic piping shall not be tested using air or gas. water or for piping systems other than plastic, by air with no evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough piping has been installed, as follows:~~

- ~~1. Water test. Each section shall be filled with water to a point not less than 10 feet (3048 mm) above the highest fitting connection in that section, or the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.~~
2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

P2503.5.1.1 Water test. The piping shall be filled with water. Additional water shall be forced into the piping to increase the pressure in the piping by not less than 10 feet (3048 mm) of water column (4.3 psi) (30 kPa). The source of pressure shall be isolated and disconnected from the piping except where a standpipe is used to generate the test pressure. Where a standpipe is used to generate the test pressure, water shall not be added to the standpipe during the test observation period. The test shall be successful where there is not any change in pressure gauge indication during an observation period of 15 minutes. The pressure gauge shall comply with the requirements of Section P2503.9.

Exception: Vent piping that is within 10 feet (3048) below the elevation of the termination of the vent piping above a roof shall only be required to be filled with water and shall not be required to be pressurized by 10 feet (3048 mm) of water column (4.3 psi) (30 kPa).

P2503.5.1.2 Air test. The piping shall be pressurized with not less than 4.3 psi (30 kPa) of air. The air pressure shall be retained and the source of air pressure shall be disconnected from the piping. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This shall be held without introduction of additional air for a period of 15 minutes. The test shall be successful where there is not any change in pressure gauge indication during an observation period of 15 minutes. The pressure gauge shall comply with the requirements of Section P2503.9.

Exception: The highest vent piping joint in a completed drain waste and vent system and the pipe above such point in the vent system shall not be required to be tested.

Reason: The existing section language has some convoluted language regarding a personnel safety-related prohibition, appears to allow testing using gases other than air which is equally dangerous to personnel, uses an acronym in the code language (an undesirable practice), has archaic terminology, fails to consider certain DWV piping arrangements that are now allowed by the code and, depending on a code official's interpretation, puts onerous and perhaps impossible demands on the inspector to visually inspect all of the pipe, fittings and connections for water leaks.

Water testing:

A common method for water testing is to attach a standpipe to the piping being tested and filling the piping and the standpipe with water so that the water in the standpipe produces the required test pressure in the piping. The test pressure is easily verified by measuring the height of the standpipe. A "loss of pressure" (indicating a leak) in the system *could* be determined by observing the water level in the standpipe. However, in many cases, observing the water level in the standpipe might require the inspector to climb a ladder to visually see the water level at the top of the standpipe. The inspector is now challenged as to

how much of a drop in water level in the standpipe constitutes a test failure? At first, it might be easy to say “none”. However, if a pressure gauge is connected to the system to determine pressure loss, the minimum “readability” of the gauge for this pressure range allows for *some* pressure loss (or drop in standpipe water level). For example, Section P2503.9 requires that the pressure gauge have increments of 0.1 psi. Therefore, the gauge can be read to an accuracy of half of the increment or 0.05 psi. In other words, where using a reasonably sized, typical dial pressure gauge, it would be very difficult to observe that the pressure gauge needle moved by an increment less than 0.05 psi. So, by reading a pressure gauge, the amount of pressure drop allowed in the system under test is 0.05 psi. This pressure converts to 1.4 inches of water column. So, theoretically, to be fair and equivalent to the reading of a pressure gauge (such as used for an air test), the water level in the test standpipe could drop 1.4 inches and still be considered acceptable. Some code officials will fail a water test on piping because of a *change in shape of the water meniscus in the standpipe!* This is not realistic, is unnecessarily restrictive and is not what is intended by the code. By requiring that a gauge be used for determining the success of a water test allows for the code official to remain in a safe location (not having to climb ladders) and provides for a reasonable allowance for leakage of a system that essentially experiences no pressure while in service.

Another way to pressurize the piping with water is to force water into the piping with a hydrostatic pump (usually a small hand pump). The current language doesn't seem to consider this method and some code officials might balk at this method just because they think the language requires a 10 foot standpipe full of water to generate the test pressure. The revised language is now open to allow for water pressurization by a pump (typically a hand pump) instead of a standpipe.

The exception for P2503.5.1.1 is provided to accommodate the age old method of just filling the completed piping system to the overflow point at the vent terminal above the roof. (This is the same allowance that is in the current section language). Vent piping, especially so near to the opening to the outdoors, experiences negligible pressure in actual service so testing at not less than “10 feet of water column” is not critical. Simply filling this section of vent piping with water is good enough as it has been for decades.

Air testing:

This proposal adds the prohibition of the use of gas for testing plastic piping systems as someone could claim that they were not using air for testing but gas (such as nitrogen or carbon dioxide) for testing--the hazard (explosion of the piping) is still the same.

The test pressure of “5 psi of air” was changed to 4.3 psi to be equivalent to 10 feet head of water as it doesn't make sense to “penalize a system” with a higher test pressure just because of the test method chosen. The 5 psi air pressure was originally chosen because in the past, gauges with 1 psi increments were commonly used. Now, the code requires (Section P2503.9) that the pressure gauge have 0.1 psi increments so it is easily possible to pressurize with accuracy to 4.3 psi. There is no need (and it doesn't make sense) to air test at 5 psi when water testing is only required at 4.3 psi (10 feet of water head).

Test instruments using mercury are rarely, if ever anymore, used for plumbing system testing. Because of the environmental issues associated with a mercury spill from such test instruments, references to this type of test apparatus should be eliminated. The exception to Section P2503.5.1.2 is provided so that contractors will not have to climb roofs (sometimes very steep and slick) to “cap off” a vent pipe for a test and then return to the roof to uncap the vent pipe after the test. Such work can be easily and safely performed in an attic space. In actual service, the vent system experiences negligible pressure at this point so testing of this final connection isn't critical. Let's not make the plumbers do something that we know is dangerous (accessing roofs).

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Cost Impact: The code change proposal will not increase the cost of construction.

RP7-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2503.5.1-RP-HALL-PMGCAC

RP8 – 13

P2503.5.1

Proponent: Gary Kozan, CPD, Ridgeway Plumbing, representing Florida Association of Plumbing Heating Cooling Contractors (garyk@ridgewayplumbing.com)

Revise as follows:

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by water or for piping systems other than plastic, by air with no evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough piping has been installed, as follows:

1. Water test. Each section shall be filled with water to a point not less than ~~40~~ 5 feet (~~3048~~ 1524 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.
2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 KPa) or 10 inches of mercury column (34 KPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

Reason: When testing a DWV system, the actual head pressure is not nearly as critical as the visual nature of the test. 10-foot head tests are commonly verified by the inspector "shaking the stack." If water splashes out, the system is considered to be watertight. Mirrors and ladders are seldom used. Lowering the fill stack to 5 feet enables both the installer and the inspector to put eyeballs on the water level inside the pipe. Seeing is believing.

There is nothing magical about a 10-foot head. The reality is a 10-foot (4.34 psi) head test is unlikely to reveal any leaks or defects that would not be detected by a 5-foot (2.17 psi) head test. Many jurisdictions favor the 5-foot head test as superior overall to a 10-foot head test. Florida, for example, adopted the 5-foot head test statewide more than ten years ago. It is time for the IRC to recognize this common sense approach.

Cost Impact: This code change proposal will not increase the cost of construction.

RP8-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2503.5.1-RP-KOZAN.DOC

RP9 – 13

P2503.5.2, P2503.5.2.1 (New), P2503.5.2.2 (New), P2503.5.2.2.1 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2503.5.2 Finished test plumbing. After the plumbing fixtures ~~have been~~ are set installed, and their traps filled with water and any air admittance valves installed, a test in accordance with Section P2503.5.2.1 shall be performed. Where required by the building official, one or more tests in accordance with P2503.5.2.2 shall be performed. ~~their connections shall be tested and proved gas tight and/or water tight as follows:~~

P2503.5.2.1 Water leakage tightness. ~~Each-Fixtures shall be operated while exposed piping, fixture and faucet connections are observed for leaks. The test shall be successful where there is not any evidence of water leakage, filled and then drained. Traps and fixture connections shall be proven water tight by visual inspection. This section shall not be construed as requiring the building official to witness the operation of all fixtures.~~

P2503.5.2.2 Gas leakage tightness. ~~Only when required by the local administrative authority building official, testing in accordance with Section P2503.5.2.2.1 or P2503.5.2.2.2 shall be performed. a final test for gas tightness of the DWV system shall be made by the smoke or peppermint test as follows:~~

P2503.5.2.2.1 Smoke test. ~~Introduce-A pungent, thick smoke into the system shall be forced into the drainage, waste and vent system, on the downstream side of traps, using a pressure of 1 inch water column (249 Pa) or less. When After the smoke appears at the outdoor vent terminals, such the terminals shall be temporarily sealed to prevent smoke leakage and the piping shall be pressurized to 1-inch water column (249 Pa) by a continuous source of air, and a pressure equivalent to a 1-inch water column (249 Pa) shall be applied and maintained for a test period of not less than 15 minutes. The test shall be successful where there is not any smoke observed inside the building during an observation period of 15 minutes. Smoke generating materials such as bombs, canisters and flares shall not be placed into the drain, waste and vent system piping.~~

P2503.5.2.2.2 Peppermint test. ~~All but one outdoor vent terminal of the piping shall be temporarily sealed to prevent odor leakage. Two Introduce 2 ounces (59 mL) of oil of peppermint shall be poured into the open outdoor vent terminal followed by into the system. Add 10 quarts (9464 mL) of hot water. and seal all vent terminals. The vent terminal shall be temporarily sealed gas tight. The test shall be successful where the odor of peppermint is not detected in the building during an observation period of 15 minutes. The odor of peppermint shall not be detected at any trap or other point in the system. Persons who have performed the addition of oil and hot water to the system shall not enter the building until after the observation period.~~

Reason: This section has some convoluted language, some archaic terminology and fails to address certain important specifics of the test methods such as making sure air admittance valves are installed. The revised language makes the intent clear. The last sentence of Section P2503.5.2.1 allows the building official to randomly select (or select none) of the fixtures to operate during inspection so as to not waste precious time for inspection. The plumbing installer should have already performed a final leak test of all fixtures before inspection. The plumbing installer is responsible for finding and resolving any leaks before and after inspection. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list. For PMGCAC member reference, this was item no. 7 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP9-13

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

P2503.5.2-RP-HALL-PMGCAC

RP10 – 13

P2503.7, P2503.7.1 (New), P2503.7.2 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2503.7 Water-supply service and distribution systems testing. ~~Upon completion of The water service piping system and water distribution piping system -supply system or section of it, system or portion completed shall be tested and proved tight under a water pressure of not less than the working pressure of the system or, for piping systems other than plastic, by an air test of not less than 50 psi (345 kPa) in accordance with Section P2503.7.1 or P2503.7.2. This pressure shall be held for not less than 15 minutes. The water used for tests shall be obtained from a potable water source. Plastic piping shall not be tested using air or gas.~~

P2503.7.1 Water test. The piping shall be filled with potable water. The water in the piping system shall be pressurized to not less than the working pressure of the system. The pressure shall be retained and the source of pressure shall be isolated from the piping being tested. The test shall be successful where there is not any change in pressure gauge indication during an observation period of 15 minutes. The pressure gauge shall comply with requirements of Section P2503.9.

P2503.7.2 Air test. The piping shall be pressurized with not less than 50 psi (345 kPa) of air. The pressure shall be retained in the piping and the source of air pressure shall be disconnected from the piping. The test shall be successful where there is not any change in pressure gauge indication during an observation period of 15 minutes. The pressure gauge shall comply with requirements of Section P2503.9.

Reason: This section has some convoluted language, some archaic terminology and fails to address certain important specifics of the test methods. The revised language makes the intent clear. Compressed gas was added to the plastic piping prohibition because someone could claim that they were not using air. Some people might say "Why have a pressure gauge to check for leaks when testing with water? You'll be able to see the leaks". Consider a water service line in a muddy trench. Or it starts to rain on the trench. Or the water distribution system of a large multi-story house. Or the house is not rain tight and there is rainwater dripping everywhere. Does the building official want to go around checking for drips? That's the plumbers responsibility if the system doesn't hold pressure. The pressure gauge method for inspection provides a single point for building official to look at.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list. For PMGCAC member reference, this was item no. 8 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP10-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2507.5.7-RP-HALL-PMGCAC

RP11 – 13

P2601.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2601.2 Connections to drainage system. Plumbing fixtures, drains, appurtenances and appliances used to receive or discharge liquid wastes or sewage shall be directly connected to the sanitary drainage system of the building or premises, in accordance with the requirements of this code. This section shall not be construed to prevent indirect waste connections where required by the code. ~~waste systems.~~

Exception: Bathtubs, showers, lavatories, clothes washers and laundry trays shall not be required to discharge to the sanitary drainage system where such fixtures discharge to an approved gray water systems complying with Section P3009. ~~for flushing of water closets and urinals or for subsurface landscape irrigation.~~

Reason: It is unclear what an "indirect waste system" is. The intent is to have all connections be direct connections except where the code requires an indirect connection. The last part of the text in the exception is unnecessary – the gray water recycling system section covers what to do with the gray water after it is captured.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list. For PMGCAC member reference, this was item no. 9 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP11-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2601.2-RP-HALL-PMGCAC

RP12 – 13

P2602.1, P2602.2, Chapter 14

Proponent: Dan Buuck, National Association of Home Builders (NAHB); David Hall CFM, Georgetown Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

SECTION P2602 INDIVIDUAL WATER SUPPLY AND SEWAGE DISPOSAL

P2602.1 General. The water-distribution and drainage system of any building or premises where plumbing fixtures are installed shall be connected to a public water supply or sewer system, respectively, if available. When either a public water supply or sewer system, or both, are not available, or connection to them is not feasible, an individual water supply or individual (private) sewage-disposal system, or both, shall be provided. Individual water supplies shall be constructed in accordance with state and local laws or in accordance with ANSI/NGWA-01-07.

P2602.2 Flood-resistant installation. In flood hazard areas as established by Table R301.2(1):

1. Water supply systems shall be designed and constructed to prevent infiltration of floodwaters.
2. Pipes for sewage disposal systems shall be designed and constructed to prevent infiltration of floodwaters into the systems and discharges from the systems into floodwaters.

Add new standard to Chapter 14 as follows:

National Ground Water Association
601 Dempsey Road
Westerville, OH 43081-8978

NGWA

ANSI/NGWA-01-07 Water Well Construction Standard

Reason: The IRC currently refers the user to the IPC for requirements regarding well construction, as it does for all plumbing not addressed in the IRC (P2601.1). Does it make sense to have code language regarding wells when many states and counties have laws that regulate their construction? The provisions for wells in the IPC are also incomplete and spread out through several sections of the code making tracking difficult. This proposal is a simple change that clarifies where to go for well construction requirements—either your local regulations or an ANSI standard.

The Water Well Construction Standard is expected to complete the ANSI process and be published by the end of summer 2013.

Cost Impact: The code change proposal will not increase the cost of construction.

RP12-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2602.1-RP-BUUCK-HALL-PMGCAC

RP13 – 13

P2603.2.1, P2603.2.1.1 (New), P2603.2.1.2 (New), P2603.2.1.3 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2603.2.1 Protection against physical damage. ~~In concealed locations where piping, other than cast iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1 1/2 inches (38 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage). Such plates shall cover the area of the pipe where the member is notched or bored and shall extend not less than 2 inches (51 mm) above sole plates and below top plates. Where piping will be concealed within light-frame construction assemblies, the piping shall be protected against penetration by fasteners in accordance with Sections P2603.2.1.1 through P2603.2.1.3.~~

Exception: Cast iron piping and galvanized steel piping shall not be required to be protected.

P2603.2.1.1 Piping through bored holes or notches. Where piping is installed through holes or notches in framing members and the piping is located less than 1 1/2 inches (38 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the pipe shall be protected by shield plates that cover the width of the pipe and the framing member and that extend 2 inches (51 mm) to each side of the framing member. Where the framing member that the piping passes through is a bottom plate, bottom track, top plate or top track, the shield plates shall cover the framing member and extend 2 inches (51 mm) above the bottom framing member and 2 inches (51 mm) below the top framing member.

P2603.2.1.2 Piping in other locations. Where the piping is located within a framing member and is less than 1 1/2 inches (38 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the piping shall be protected by shield plates that cover the width and length of the piping. Where the piping is located outside of a framing member and is located less than 1 1/2 inches (38 mm) from the nearest edge of the face of the framing member to which the membrane will be attached, the piping shall be protected by shield plates that cover the width and length of the piping.

P2603.2.1.3 Shield plates. Shield plates shall be of steel material having a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage).

Reason: This proposal provides clear requirements of where shield plates are needed. Section P2603.2.1 uses the term "light frame construction assemblies" to describe wall, floor and roof assemblies that can be made up from either wood members or light frame, cold formed steel members.

Section P2603.2.1.1 covers applications where piping runs perpendicular to a framing member and passes through a bored hole or notch in the framing member. This text is nearly the same as what is currently in the IRC. If the piping is within 1 1/2 inches of the face of the member where wall ceiling or floor membranes will be attached, then the piping is required to be protected by a shield plate that covers the width of the piping by the width of the framing member plus 2 inches on either side of the framing member. Protection of the piping on either side of the framing member is needed because it is too easy for a membrane/fastener installer to miss the framing member's fastening face or penetrate the member at an angle and hit the piping that is just outside of the framing member.

Section P2603.2.1.1 also covers the application where piping runs perpendicular to and penetrates top and bottom plates, or top and bottom tracks. Protection of the piping above the bottom framing member (or below the top framing member) is needed because it is too easy for a membrane/fastener installer to miss the framing member's fastening face or penetrate the member at an angle and hit the piping just outside of the framing member. The code fails to address the situation where piping is run within the C-channel of a metal stud or joist and it also fails to address piping run parallel to a framing member.

Section P2603.2.1.2 covers applications where the piping runs alongside of a framing member or in the case of a light frame, cold formed steel framing member, piping that runs parallel to the length of and within the framing member (in other words, within the channel section). If the piping is within 1 1/2 inches of the face of the member where wall, ceiling or floor membranes will be attached, then the piping is required to be protected by a shield plate that covers the width of the piping by the length of piping that is within the 1 1/2 inch proximity of the framing member's fastening face. Piping that is located behind the fastening face of the member and within 1 1/2 inches of the fastening face of the member obviously needs protection from fastener penetration. Piping that is

located adjacent to and within 1 ½ inches of the fastening face of the member needs protection because it is too easy for a membrane/fastener installer to miss the framing member's fastening face or penetrate the member at an angle and hit the piping that is just outside of the framing member.

The opposition to this proposal for the IPC was related to the requirement to protect the length of piping that is run parallel to a framing member and within 1 ½ inches from the member face to which wall board will be screwed or nailed. The concern was expressed that it would be difficult to protect the pipe for its full length, making the assumption that the pipe ran from the bottom plate up through the top plate in walls. First of all, it is unlikely that an installer would install piping from plate to plate that close to the stud, since it would be nearly impossible to drill holes that close to the stud. Secondly, the obvious way to avoid installing protection for the pipe is to simply keep it at least 1 ½ inches away from the framing member. With a little planning, the installation of pipe protection could be easily avoided.

This proposal was approved for the 2015 IFGC.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will increase the cost of construction.

RP13-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2603.2.1-RP-HALL-PMGCAC

RP14 – 13

P2603.2.1

Proponent: Gary Kozan, CPD, Ridgeway Plumbing, representing Florida Association of Plumbing Heating Cooling Contractors (garyk@ridgewayplumbing.com)

Revise as follows:

P2603.2.1 Protection against physical damage. In concealed locations, where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than ~~4-1/2~~ 1-1/4 inches (~~38~~ 31.8 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage). Such plates shall cover the area of the pipe where the member is notched or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.

Reason: The safest place to run water piping is in the middle of the wall. But in a typical 3-1/2 inch stud wall, even a 1/2-inch pipe (5/8-inch o.d.) ends up nearer than the requisite 1-1/2 inch setback from either edge. Inspectors often want to see stud guards on *both* sides of the stud. This makes no sense. By reducing the distance from 1-1/2 inches to 1-1/4 inches, both 1/2 and 3/4-inch water lines can be safely installed in the center of the wall without the need for stud guards on either side. This encourages quality workmanship instead of penalizing it.

This proposal is consistent with the National Electrical Code, which also specifies a 1-1/4-inch setback from the edge of a stud. The Uniform Plumbing Code specifies only a 1-inch setback.

Cost Impact: This code change proposal will not increase the cost of construction.

RP14-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2603.2.1-RP-KOZAN.DOC

RP15 – 13

P2603.3

Proponent: Richard Grace/Fairfax County/Virginia Plumbing and Mechanical Inspectors Association and Virginia Building and Code Officials Association (Richard.Grace@fairfaxcounty.gov)

Revise as follows:

P2603.3 Breakage and corrosion. ~~Pipes passing through concrete or cinder walls and floors, cold-formed steel framing or other corrosive material shall be protected against external corrosion by a protective sheathing or wrapping or other means that will withstand any reaction from lime and acid of concrete, cinder or other corrosive material.~~ Piping, other than cast iron and ductile iron, shall not be installed in direct contact with concrete, masonry or cold-formed steel framing. Metallic piping shall not be installed in direct contact with corrosive soil. Where plastic sheathing is used to prevent direct contact with concrete, masonry, or cold-formed steel framing, the wall thickness of the sheathing shall be not less than 0.006 inches (6 mil) (0.152 mm). Sheathing or wrapping shall allow for movement including expansion and contraction of piping. ~~The wall thickness of material shall be not less than 0.025 inch (0.64 mm).~~

Reason: The intent of the code is to protect piping from direct contact with concrete, masonry, cold formed steel framing, and corrosive soils. This proposal is a cleanup action to clarify that intent. The commonly used plastic sheathing for pipe protection has a wall thickness of only 0.004 inches or 0.006 inches thick. The 0.025 inch thick material is really unnecessary and beyond the minimum standard practice used to protect the piping system. The thinner material has been used for years with satisfactory results.

Cost Impact: This code change will not increase the cost of construction.

RP15-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2603.3-RP-GRACE.DOC

RP16 – 13

P2603.3

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Delete and substitute as follows:

~~P2603.3 Breakage and corrosion.~~ ~~Pipes passing through concrete or cinder walls and floors, cold-formed steel framing or other corrosive material shall be protected against external corrosion by a protective sheathing or wrapping or other means that will withstand any reaction from lime and acid of concrete, cinder or other corrosive material. Sheathing or wrapping shall allow for movement including expansion and contraction of piping. The wall thickness of material shall be not less than 0.025 inch (0.64 mm).~~

P2603.3 Protection against corrosion. Metallic piping, except for cast iron, ductile iron and galvanized steel, shall not be placed in direct contact with steel framing members, concrete or masonry. Metallic piping shall not be placed in direct contact with corrosive soil. Where sheathing is used to prevent direct contact, the sheathing material thickness shall be not less than 0.008 inch (8 mil) (0.203 mm) and shall be made of plastic. Where sheathing protects piping that penetrates concrete or masonry walls or floors, the sheathing shall be installed in a manner that allows movement of the piping within the sheathing.

Reason: One clear intent of this code section is to protect metallic piping from direct contact with concrete, masonry, corrosive soils and cold formed steel framing members as direct contact could cause exterior corrosion of the piping. However, it is not clear exactly what the sentence "Sheathing or wrapping shall allow for movement including expansion and contraction of piping" is intended to mean. Committee comments from the 2012 IPC hearings on a similar proposal seem to indicate that where sheathing or wrapping (presumably with plastic materials) are used to protect a pipe passing through concrete (such as a pipe below a slab coming up through and cast in the slab), the sheathing must allow for some "give" between the pipe and the concrete or masonry.

The wall thickness of the sheathing material is in question. To our knowledge, no one is using this thick of material and jurisdictions are not enforcing the requirement for 0.025 inch (25 mils) thick material. Much thinner plastic sheathing materials are commonly being used across the country for decades without any reported adverse effects. Cast iron and ductile iron manufacturers recommend, for corrosive soil conditions, the use of either 0.008 inch thick low density polyethylene sheathing or 0.004 inch thick, high strength cross laminated polyethylene sheathing for corrosive soil conditions. For small metallic pipes such as copper tubing (1/2" to 1 1/4") passing through concrete or masonry, plumbing supply houses normally stock 0.004 and .006 inch thick low density "flat tube" plastic sheathing materials and that is what is being used. To make it easy, requiring 0.008 inch thick material for all types of metallic piping is reasonable.

The revised language improves understanding what the code intends.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list. For PMGCAC member reference, this was item no. 10 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP16-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2603.3-RP-HALL-PMGCAC

RP17 – 13

P2604.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

P2604.2 Common **Water service and building sewer in same trench.** Where the water service piping and building sewer piping is installed in same trench, the installation shall be in accordance with See Section P2905.4.2.

Reason: This existing section is poor code format and the current section has no information as to what this section really concerns. The revision makes a complete statement about what is intended.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list. For PMGCAC member reference, this was item no. 13 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP17-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2604.2-RP-HALL-PMGCAC

RP18 – 13

P2604.4

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Delete and substitute as follows:

~~P2604.4 Protection of footings.~~ ~~Trenching installed parallel to footings shall not extend below the 45-degree (0.79 rad) bearing plane of the footing or wall (See Figure P2604.4).~~

P2604.4 Protection of footings. Trenching installed parallel to footings and walls shall not extend into the bearing plane of a footing or wall. The upper boundary of the bearing plane is a line that extends downward, at an angle of 45 degrees from horizontal, from the outside bottom edge of the footing or wall.

Reason: The proposed language was approved for the 2015 IPC. The current language is not especially clear and is easily misunderstood. The proposed text is explicit and captures the intent of this provision.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X6 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP18-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2604.4-RP-HALL-PMGCAC

RP19 – 13

P2605.1

Proponent: Michael Cudahy, Plastic Pipe and Fittings Association representing the Plastic Pipe and Fittings Association (mikec@cmservnet.com)

Revise as follows:

**TABLE P2605.1
PIPING SUPPORT**

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (feet)	MAXIMUM VERTICAL SPACING (feet)
Cross-linked polyethylene (PEX) pipe, <u>1 inch and smaller</u>	2.67 (32 inches)	10b
Cross-linked polyethylene (PEX) pipe, <u>1 ¼ inch and larger</u>	<u>4</u>	<u>10^b</u>

(Portions of table and footnotes not shown remain unchanged)

Reason: PEX tubing, like other materials currently in the table, is being made in larger diameters that are stiffer and require less support.

Cost Impact: None

RP19-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P2605.1-RP-CUDAHY.DOC

RP20 – 13

Table P2605.1

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

**TABLE P2605.1
PIPING SUPPORT**

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (feet)	MAXIMUM VERTICAL SPACING
Brass Pipe	40	40

(Portions of table not shown remain unchanged)

Reason: Brass and Bronze are copper alloys and are covered under the copper and copper alloys listed elsewhere in the table. This proposal eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Cost Impact: The code change proposal will not increase the cost of construction.

RP20-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P2605.1T-RP-FEEHAN.DOC

RP21 – 13

Table P2605.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

TABLE P2605.1 PIPING SUPPORT

(Portions of table not shown remain unchanged)

- a. The maximum horizontal spacing of cast iron pipe hangers shall be increased to 10 feet where 10 foot lengths of pipe are installed.
- b. ~~Mid-story guide~~ For sizes 2 inches and smaller, a guide shall be installed midway between required vertical supports. Such guides shall prevent pipe movement in a direction perpendicular to the axis of the pipe.

Reason: What constitutes a “mid-story guide” and what is supposed to do? The revised language provides the necessary information to make this footnote clear. This same proposal for the 2015 IPC was approved as submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 14 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP21-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2605.1T-RP-HALL-PMGCAC

RP22 – 13

P2603.5 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Add new text:

P2603.5 Pipes through footings. Piping shall not pass through a building footing except where a registered design professional has reviewed the design of the altered footing. Piping through footings shall be provided with a pipe sleeve built or cast into the footing except where holes for piping are drilled through concrete footings already cast. Pipe sleeves or drilled holes in footings shall be not less than two pipe sizes greater than the pipe passing through the footing.

(Renumber subsequent sections)

Reason: In rare circumstances, it is sometimes necessary for a pipe to pass through a footing. For example, the slope of a building drain might not be able to be changed resulting in the drainage pipe needing to pass through the footing. Any footing to be altered should be reviewed by a design professional to determine what footing design changes might be necessary to maintain the required footing strength. The need for protecting pipes passing through footings is no different than for pipes passing through foundation walls thus a pipe sleeve is necessary. Where holes are drilled in footings after concrete footings are cast in place, pipe sleeves are not necessary (it's an obvious statement but it needs to be said).

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 11 on the PMGCAC IRC-P list. For PMGCAC member reference, this was item no. 12 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP22-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2605.3 (NEW)-RP-HALL-PMGCAC

RP23 – 13

P2607.1, P2607.2 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2607.1 General Pipes penetrating roofs. Where a pipe penetrates a roof, a flashing of lead, copper, galvanized steel or an *approved* elastomeric material shall be installed in manner that prevents water entry into the building. Counterflashing into the opening of pipe serving as a vent terminal shall not restrict reduce the required internal cross-sectional area of the vent pipe to less than the internal cross-sectional area of one pipe size smaller, any vent, and exterior wall penetrations shall be made water tight. Joints at the roof, around vent pipes, shall be made water tight by the use of lead, copper or galvanized iron flashings or an *approved* elastomeric material.

Add new text as follows:

P2607.2 Pipes penetrating exterior walls. Where a pipe penetrates an exterior wall, a waterproof sealant shall be applied at the joint between the wall and the pipe, on the exterior of the wall.

Reason: The phrase “made water tight” is archaic language. The existing section needs to be broken into two sections for clarity. Additional wording makes the intent clear. Counterflashing will *always* reduce the inside cross-sectional area of the vent pipe so the issue is how much reduction is acceptable. An area that is not less than one pipe smaller seems reasonable.

The new section just separates the wall sealing requirement out of the previous section and makes the language clear.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 15 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP23-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2607.1-RP-HALL-PMGCAC

RP24-13

P2609.1

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

P2609.1 Identification. Each length of pipe and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer and any markings required by the applicable referenced standards. Nipples created from the cutting and threading of approved pipe shall not be required to be identified.

Reason: The identification section is restrictive and does not take into consideration nipples created from pipe.

Cost Impact: The code change proposal will not increase the cost of construction.

RP24-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2609.1-RP-FEEHAN.DOC

RP25-13

P2609.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2609.1 Identification. Each length of pipe and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer and any markings required by the applicable referenced standards.

Exception: Where the manufacturer identification cannot be marked on pipe fittings and pipe nipples because of the small size of such fittings, the identification shall be printed on the item packaging or on documentation provided with the item.

Reason: Some items are too small to apply the manufacturer's identification on the item. The exception allows for packaging or provided documentation to verify the identity of the item.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 16 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP25-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2609.1-RP-HALL-PMGCAC

RP26-13

P2609.3

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2609.3 Plastic pipe, fittings and components. All plastic pipe, fittings and components, including brass fittings, shall be third-party certified as conforming to NSF 14.

Reason: Testing and certification requirements were added to NSF 14 to provided dezincification resistant brass fittings for plastic piping systems. NSF 14 was changed to reflect these requirements as a result of widespread failure of brass fittings and a large number of law suits across the United States. This proposed change to the IRC is required to update the language in the code to be consistent with changes to NSF 14. The current language could be interpreted to mean that only plastic fittings need comply with NSF 14, which the CAC does not believe is the intent.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 76 (added after 15DEC2012) on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP26-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2609.3-RP-HALL-PMGCAC

RP27-13

P2609.4

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2609.4 Third-party certification. All Plumbing products and materials required by the code to be in compliance with a referenced standard shall be listed by a third-party certification agency as complying with the referenced standards. Products and materials shall be identified in accordance with Section P2609.1.

Reason: The existing language implies that everything must have a standard. However, there are many common items used in the plumbing industry that are not made to a standard or if they are made to a standard, that standard is not referenced by the code. For example, metal hanger strap, thread sealing tape, pipe thread sealant, nails, bolts, nuts, screws, pipe support hangers and pipe clamps. These types of items are not intended to have a listing by a third party certification agency.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 17 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP27-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2609.4-RP-HALL-PMGCAC

RP28 – 13

P2701.1

Proponent: Bob Eugene representing UL LLC (Robert.Eugene@ul.com)

Revise as follows:

P2701.1 Quality of fixtures. Plumbing fixtures, faucets and fixture fittings shall be constructed of *approved* materials, shall have smooth impervious surfaces, shall be free from defects and concealed fouling surfaces, and shall conform to the standards cited in Table P2701.1 and elsewhere in this code. Plumbing fixtures shall be provided with an adequate supply of potable water to flush and keep the fixtures in a clean and sanitary condition without danger of backflow or cross connection.

Reason: Add a clear reference to Table P2701.1. Currently, the only references to this table identify only specific standards: ASTM F 409 (P2702.3); ASME 112.18.1/CSA B125.1 (P2722.1).

Cost Impact: None

RP28-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2701.1-RP-EUGENE.DOC

RP29 – 13

R202, P2707.1, P2716, P2716.1, P2716.2, P2717.3, TABLE P2903.6, TABLE P3004.1, TABLE P3005.4.2, P3111.1, P3112.1, TABLE P3201.7

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

PLUMBING APPLIANCE. An energized household *appliance* with plumbing connections, such as a dishwasher, food waste ~~grinder~~ disposer, clothes washer or water heater.

P2707.1 Directional fitting required. *Approved* directional-type branch fittings shall be installed in fixture tailpieces receiving the discharge from food waste ~~disposal~~ disposer units or dishwashers.

SECTION P2716 FOOD WASTE ~~GRINDER~~ DISPOSER

P2716.1 Food waste ~~grinder~~ disposer waste outlets. Food waste ~~grinder~~ disposer shall be connected to a drain of not less than 1-1/2 inches (38 mm) in diameter.

P2716.2 Water supply required. Food waste ~~grinder~~ disposer shall be provided with an adequate supply of water at a sufficient flow rate to ensure proper functioning of the unit.

P2717.3 Sink, dishwasher and food-waste ~~grinder~~ disposer. The combined discharge from a sink, dishwasher, and food waste ~~grinder~~ disposer is permitted to discharge through a single 1-1/2 inch (38 mm) trap. The discharge pipe from the dishwasher shall be increased to not less than 3/4 inch (19 mm) in diameter and shall connect with a wye fitting between the discharge of the food-waste ~~grinder~~ disposer and the trap inlet or to the head of the food waste ~~grinder~~ disposer. The dishwasher waste line shall rise and be securely fastened to the underside of the counter before connecting to the sink tail piece or the food waste ~~grinder~~ disposer.

**TABLE P2903.6
WATER-SUPPLY FIXTURE-UNIT VALUES FOR VARIOUS PLUMBING FIXTURES AND FIXTURE GROUPS**

TYPE OF FIXTURES OR GROUP OF FIXTURES	WATER-SUPPLY FIXTURE-UNIT VALUE (w.s.f.u.)		
Kitchen group (dishwasher and sink with/without garbage grinder <u>food waste disposer</u>)	1.9	1.0	2.5

(Portions of table not shown remain unchanged.)

**TABLE P3004.1
DRAINAGE FIXTURE UNIT (d.f.u.) VALUES FOR VARIOUS PLUMBING FIXTURES**

TYPE OF FIXTURE OR GROUP OF FIXTURES	DRAINAGE FIXTURE UNIT VALUE (d.f.u.) ^a
Kitchen group (dishwasher and sink with or without garbage grinder <u>food waste disposer</u>)	2

(Portions of table not shown remain unchanged.)

**TABLE P3005.4.2
MAXIMUM NUMBER OF FIXTURE UNITS ALLOWED
TO BE CONNECTED TO THE BUILDING DRAIN,
BUILDING DRAIN BRANCHES OR THE BUILDING SEWER**

DIAMETER OF PIPE (inches)	SLOPE PER FOOT		
	1/8 inch	1/4 inch	1/2 inch

(Portions of table not shown remain unchanged.)

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- a. 1-1/2 inch pipe size limited to a building drain branch serving not more than two waste fixtures, or not more than one waste fixture if serving a pumped discharge fixture or ~~garbage grinder~~ food waste disposer discharge.
- b. No water closets.

P3111.1 Type of fixtures. A combination waste and vent system shall not serve fixtures other than floor drains, sinks and lavatories. A combination waste and vent system shall not receive the discharge of a food waste ~~grinder~~ disposer.

P3112.1 Limitation. Island fixture venting shall not be permitted for fixtures other than sinks and lavatories. Kitchen sinks with a dishwasher waste connection, a food waste ~~grinder~~ disposer, or both, in combination with the kitchen sink waste, shall be permitted to be vented in accordance with this section.

**TABLE P3201.7
SIZE OF TRAPS AND TRAP ARMS FOR PLUMBING FIXTURES**

PLUMBING FIXTURE	TRAP SIZE MINIMUM (inches)
Kitchen sink (one or two traps, with or without dishwasher and garbage grinder <u>food waste disposer</u>)	1 1/2

(Portions of table not shown remain unchanged.)

Reason: The proposed language was approved for the 2015 IPC. The proper term used in the plumbing profession is food waste disposers, not food waste grinders. This will correct the language in the code to the proper terminology for this type of plumbing appliance.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X7 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP29-13

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

P2701.1-RP-HALL-PMGCAC

RP30 – 13

Table P2701.1, Chapter 44

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

**TABLE P2701.1
PLUMBING FIXTURES, FAUCETS AND FIXTURE FITTINGS**

MATERIAL	STANDARD
Plastic bathtub units	ANSI Z124.1.2, ASME A112.19.2/CSA B45.1
Plastic shower receptors and shower stall	ANSI Z124.1.2, CSA B45.5

(Portions of table not shown remain unchanged)

Add standard to Chapter 43 as follows:

ANSI
Z124.1.2-2005 Plastic Bathtub and Shower Units.

Reason: ANSI standards Z124.1 and Z124.2 were combined into a single standard, ANSI Z124.1.2 in 2005. The code needs to reflect the current standard for these products. The 2012 IPC already reflects this change.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 75 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP30-13

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

P2701.1T-RP-HALL-PMGCAC

RP31 – 13

P2701.2 (New), P2705.1, P2705.1.1 (New), P2705.1.2 (New), P2705.1.3 (New), P2705.1.4 (New), P2705.1.5 (New), P2705.1.6 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2701.2 Fixture fitting mounting surfaces. Integral fixture-fitting mounting surfaces on manufactured plumbing fixtures or plumbing fixtures constructed on site shall meet the design requirements of ASME A112.19.2/CSA B45.1 or ASME A112.19.3/CSA B45.1.

P2705.1 General. The installation of fixtures shall conform ~~be in accordance with Sections P2705.1.1 through P2705.1.6.~~ to the following:

P2705.1.1 Floor-outlet and floor-mounted fixtures. ~~4. Floor-mounted or and floor-outlet fixtures shall be secured to the drainage connection and fastened to the floor or fastened to a water closet flange that is fastened to the floor, where so designed, by screws, bolts, washers, nuts and similar fasteners of copper, brass or other corrosion-resistant material. Fasteners shall be of corrosion-resistant material and shall be screws or bolts.~~

P2705.1.2 Wall-hung fixtures. ~~2. Wall-hung fixtures shall be rigidly supported by the wall or where a fixture carrier is provided, supported by the carrier. The piping connected to the fixture shall not provide support for the fixture. so that strain is not transmitted to the plumbing system.~~

P2705.1.3 Sealing required. ~~3. Where fixtures come in contact with walls and floors, the contact area shall be water tight. Joints formed where fixtures come in contact with walls or floors shall be sealed water tight.~~

~~4. Plumbing fixtures shall be usable.~~

P2705.1.4 Clearances. ~~5. Water closets, lavatories and bidets.~~ A water closet, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition or vanity or closer than 30 inches (762 mm) center-to-center between adjacent fixtures. ~~There shall be~~ A clearance of not less than a 21-inches (533 mm) shall be provided in front of a water closet, lavatory or bidet to any wall, fixture or closed door.

P2705.1.5 Interference with doors and windows. ~~6. The location of plumbing piping, plumbing fixtures or plumbing equipment shall not interfere with the operation of doors or and windows.~~

P2705.1.6 Flood hazard areas. ~~7. In flood hazard areas as established by Table R301.2(1), plumbing fixtures shall be located or installed in accordance with Section R322.1.7.~~

~~8. Integral fixture-fitting mounting surfaces on manufactured plumbing fixtures or plumbing fixtures constructed on site, shall meet the design requirements of ASME A112.19.2/CSA B45.1 or ASME A112.19.3/CSA B45.1.~~

Reason: The items in this section are a mixture of subjects and should be separated into separate sections. Numerous clarifications have been added to make the each section clearer. The term "rigidly" is vague and unenforceable. Item 4 is covered by the requirements in P2705.1.4 and elsewhere in the code. Item number 8 doesn't belong under installation and should be located in Section P2701 (that is why new Section P2701.2 has been added).

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and

conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 21 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP31-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2701.2 (NEW)-RP-HALL-PMGCAC

RP32 – 13

R202, P2702.1, P2706.1, P2706.1.1 (New), P2706.2, P2706.2.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee

Add new definition to Chapter 2 as follows:

WASTE RECEPTOR. A floor sink, standpipe, hub drain or a floor drain that receives the discharge of one or more indirect waste pipes.

Revise as follows:

P2702.1 Plumbing fixtures. Plumbing fixtures, other than water closets, shall be provided with *approved* strainers.

Exception: Hub drains receiving only clear water waste and standpipes shall not require strainers.

P2706.1 General. ~~Waste receptors shall be of an approved type. Plumbing fixtures or other receptors receiving the discharge of indirect waste pipes shall be shaped and have a capacity to prevent splashing or flooding and shall be readily accessible for inspection and cleaning. Waste receptors and standpipes shall be trapped and vented and shall connect to the building drainage system. For other than hub drains that receive only clear-water waste and standpipes, a removable strainer or basket shall cover the waste outlet of waste receptors. Waste receptors shall not be installed in ventilated concealed spaces. Waste receptors shall not be installed in bathrooms, plenums, attics, crawl spaces or interstitial spaces above ceilings and below floors or in any inaccessible or unventilated space such as a closet. Ready access shall be provided to~~ Waste receptors shall be readily accessible.

Exceptions:

- ~~1. Open hub waste receptors shall be permitted in the form of a hub or pipe extending not less than 1 inch (25 mm) above a water-impervious floor, and are not required to have a strainer.~~
- ~~2. Clothes washer standpipes shall not be prohibited in bathrooms.~~

P2706.1.1 Hub drains. Hub drains shall be in the form of a hub or a pipe that extends not less than 1 inch (25mm) above a water- impervious floor.

P2706.1.2 Standpipes. Standpipes shall extend not less than ~~of~~ 18 inches (457 mm) and but not greater than 42 inches (1067 mm) above the trap weir. ~~Access shall be provided to all standpipe traps and drains for rodding.~~

P2706.1.2.1 Laundry tray connection to standpipe. ~~Where a laundry tray waste line is permitted to connect into a standpipe for the an automatic clothes washer drain-, the standpipe shall extend not less than 30 inches (762 mm) above the standpipe trap weir and shall extend above the flood level rim of the laundry tray. The outlet of the laundry tray shall be not greater than 30 inches (762 mm) horizontally distance from the standpipe trap.~~

(Renumber subsequent section)

Reason: A definition for "waste receptor" is needed. The term is found in the code 11 times with no exact description. The definition identifies exactly what constitutes an "approved type" of waste receptor. The exception of Section P2706.1 was revised to allow the absence of a strainer on hub drains that receive clear water waste as Section P2706.1 is being revised with this allowance. The first 3 sentences of P2706.1 was deleted as they are redundant – Section P2601.2 already covers where waste receptors must be connected and P3201.6 covers the requirement for traps for each fixture. The last line of Section P2601.1 was revised so that the defined term "*readily accessible*" could be used. The IRC does not have a definition for ready access.

The code fails to provide guidance as to what is a ventilated space so the language was changed to prevent waste receptors from being installed in a concealed space. There is no logical reason for waste receptors not to be installed in a bathroom. It is not unusual for a clothes washing machine (requiring a standpipe) to be placed in a bathroom in a residential occupancy. Waste receptors (typically hub drains) are frequently needed in closets or storerooms where appliances discharge condensate or relief discharges. The term "open hub waste receptor" is redundant and unclear and was eliminated in favor of the more common term "hub drain". As a hub drain is a waste receptor, a strainer is required except where the hub drain receives only clear water wastes. Standpipes are waste receptors and should be included as a subsection under the waste receptor section. The sentence "Access shall be provided to standpipe traps and drains for rodding." is unnecessary as P2706.1 already requires waste receptors to be readily accessible.

A similar proposal for the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 19 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP32-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2702.1-RP-HALL-PMGCAC

RP33 – 13

P2702.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2702.2 Waste fittings. Waste fittings shall conform to ASME A112.18.2/CSA B125.2, ASTM F 409 or shall be made from pipe and pipe fittings complying with any of the standards indicated in Tables P3002.1(1) and P3002.3. ~~to one of the standards listed in Table P3002.1(1) for above-ground drainage and vent pipe and fittings.~~

Reason: There is no need to state the title of the table along with the table number in code text. The added wording improves what is intended by the code which is that waste fittings can be made up from pipe and fittings.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 20 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP33-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2702.2-RP-HALL-PMGCAC

RP34 – 13

P2705.1

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

P2705.1 General. The installation of fixtures shall conform to the following:

1. Floor-outlet or floor-mounted fixtures shall be secured to the drainage connection and to the floor, where so designed, by screws, bolts, washers, nuts and similar fasteners of copper, ~~brass~~ copper alloy or other corrosion-resistant material.
- 2 through 8 *(No change to current text)*

Reason: This proposal eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Cost Impact: The code change proposal will not increase the cost of construction.

RP34-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2705.1-RP-FEEHAN.DOC

RP35 – 13

P2706.1

Proponent: Richard Grace, Fairfax County, representing Virginia Plumbing and Mechanical Inspectors Association and Virginia Building and Code Officials Association (Richard.Grace@fairfaxcounty.gov)

Revise as follows:

P2706.1 General. ~~Waste receptors shall be of an approved type.~~ Plumbing fixtures or other receptors receiving the discharge of indirect waste pipes shall be shaped and have a capacity to prevent splashing or flooding and shall be readily accessible for inspection and cleaning. Waste receptors and standpipes shall be trapped and vented and shall connect to the building drainage system. For other than standpipes and hub drains, a removable strainer or basket shall cover the waste outlet of waste receptors. Waste receptors shall not be installed in ~~ventilated concealed~~ spaces. Waste receptors shall not be installed in ~~bathrooms, attics, crawl spaces, interstitial spaces above ceilings and below floors or in any inaccessible or unventilated space such as a closet.~~ Ready access shall be provided to waste receptors.

Exceptions:

1. Open hub waste receptors shall be permitted in the form of a hub or pipe extending not less than 1 inch (25 mm) above a water-impervious floor, ~~and are not required to have a strainer.~~
- ~~2. Clothes washer standpipes shall not be prohibited in bathrooms.~~

Reason: This is a companion proposal with a newly added definition of waste receptor. We have attempted to identify exactly what constitutes an 'approved type' of waste receptor. The code fails to provide guidance as to what is a ventilated space, so we suggest removing the terms. This proposal takes the provisions in the direction of clear mandatory language that provides the user with terminology that clearly explains where a waste receptor is not permitted to be located. Further, there is no real problem associated with having a hub drain in a closet or storeroom where items such as water heaters and condensate producing appliances are located so that text has been removed. The last sentence of the main paragraph in regard to ready access has been struck as this is clearly stated in the second sentence of the existing paragraph. The last portion of exception #1 in regard to the strainer not being required for a hub drain is now struck as the new text in the main paragraph now clearly allows this type of drain without a strainer. Exception #2 is now struck as the main paragraph now allows waste receptors, including standpipes as now defined, in bathrooms.

Cost Impact: This code change will not increase the cost of construction.

RP35-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2601.1-RP-GRACE.DOC

RP36 – 13

P2701.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2701.1 Quality of fixtures. Plumbing fixtures, faucets and fixture fittings ~~shall be constructed of approved materials,~~ shall have smooth impervious surfaces; shall be free from defects and shall not have concealed fouling surfaces., ~~and shall conform to the standards cited in this code.~~ Plumbing fixtures shall ~~be provided with an adequate supply of potable water to flush and keep the fixtures in a clean and sanitary condition without danger of backflow or cross connection.~~

Reason: The current code text is very old and comes from a time where there were not many standards existed for plumbing fixtures and fittings. According to the first sentence of this section, the code official must approve materials, even those that are in compliance with the standards referenced in the code. The first sentence is revised to make a general statement about the quality of fixtures. The last sentence has nothing to do with quality of fixtures. The subject matter is covered adequately elsewhere in the code so this sentence needs removed.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 18 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP36-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2701.1-RP-HALL-PMGCAC

RP37 – 13

P2708.3

Proponent: Edward R. Osann, Natural Resources Defense Council, representing self.
(eosann@nrdc.org)

Revise as follows:

P2708.3 Shower control valves. Individual shower and tub/shower combination valves shall be equipped with control valves of the pressure-balance, thermostatic-mixing or combination pressure-balance/thermostatic-mixing valve types with a high limit stop in accordance with ASSE 1016 or ASME A112.18.1/CSA B125.1. Shower control valves shall provide thermal shock protection for the rated flow rate of the installed showerhead or a flow rate of 1.5 gpm \pm 0.1 gpm (5.75 L/m \pm 0.35 L/m), whichever is less. The high limit stop shall be set to limit the water temperature to not greater than 120°F (49°C). Each valve shall be factory marked with the manufacturer's minimum rated flow, and such marking shall be in an accessible position so as to make inspection readily possible following installation. In-line thermostatic valves shall not be used for compliance with this section.

Reason: The thermal protection afforded by shower valves can be compromised if the flow rate of the showerhead is less than the flow rate for which the protective components of the valve have been designed. As noted by Martin and Johnson (2008) (as cited in Codes and Standards Enhancement Initiative (CASE), "Multi-Head Showers and Lower-Flow Shower Heads," 2013 *California Building Energy Efficiency Standards*, California Utilities Statewide Codes and Standards Team, September 2011), combinations of valves and shower heads were tested to determine whether pressure-compensating valves and thermostatic valves rated for 2.5gpm would perform adequately at lower flow rates. The tests included 22 shower valves from six manufacturers, and the valves were assessed on their ability to maintain water temperature within certain bounds for a given time after a change in pressure event, as described by the ASSE 1016-2005 standard for shower valves. The results indicated that a significant share of shower valves rated for 2.5 gpm failed to provide the thermal protection specified by ASSE 1016 when tested at lower flow rates. As summarized in the CASE report (p. 15): "These results indicate that shower valve temperature maintenance is strongly affected by flow rate, and that new showers with lower-flow shower heads would have to be installed with valves that are designed for 2.0 and lower flow rates."

Showerheads with maximum flow rates below 2.5 gpm are widely available on the market today, and simple replacement of a showerhead is typically not subject to code. Since shower valve components are located behind finished walls, replacement of showerheads is likely to be more frequent than replacement of shower valves. This proposed change seeks to reduce the likelihood that consumers replacing a showerhead will compromise the thermal protection offered by a building subject to this code by ensuring that shower valves can fully accommodate showerheads with lower flow rates than the current maximum federal standard of 2.5 gpm. The current EPA WaterSense specification for showerheads has a maximum flow rate of 2.0 gpm, and many showerheads are already available with flow rates between 2.0 and 1.5 gpm. As manufacturers continue to innovate with more water- and energy-efficient showerheads, the code change proposed here will help ensure that new buildings built to this code can safely accommodate showerheads with lower flow rates that may be selected by building occupants in future years.

Note that this language does not require that the showerhead itself have a flow rate of 1.5 gpm, but simply that the shower valve provide the thermal protection called for under the recognized standard when tested at a flow rate as low as 1.5 gpm. In the event that the showerhead selected for initial installation has a flow rate of less than 1.5 gpm, the minimum rated flow of the shower valve must match the flow rate of the showerhead.

The marking requirement is necessary to facilitate inspection. To the extent that the mark is permanent, it will provide a point of reference for building occupants to consider when changing showerheads in future years.

Cost Impact: Conforming products are on the market today without a significant cost premium. The code change proposal will not increase the cost of construction.

RP37-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2708.3-RP-OSANN.DOC

RP38 – 13

P2709.2, P2709.2.3

Proponent: Richard Grace, Fairfax County, representing Virginia Plumbing and Mechanical Inspectors Association and Virginia Building and Code Officials Association (Richard.Grace@fairfaxcounty.gov); Roger Harper, Jr, Louisa County VA representing, the Virginia Plumbing and Mechanical Inspectors Association and The Virginia Building Code Officials Association and ICC Region 7 (sharper@louisa.org)

Revise as follows:

P2709.2 Lining required. The adjoining walls and floor framing enclosing on-site built-up shower receptors shall be lined with one of the following materials:

1. Sheet lead;
2. Sheet copper;
3. Plastic liner material that complies with ASTM D 4068 or ASTM D 4551; or
4. ~~Hot mopping in accordance with Section P2709.2.3; or~~
- 5-4. Sheet-applied load-bearing, bonded waterproof membranes that comply with ANSI A118.10.

(Remainder of section not shown remains unchanged)

~~**P2709.2.3 Hot mopping.** Shower receptors lined by hot mopping shall be built up with not less than three layers of standard grade Type 15 asphalt impregnated roofing felt. The bottom layer shall be fitted to the formed subbase and each succeeding layer thoroughly hot mopped to that below. All corners shall be carefully fitted and shall be made strong and water tight by folding or lapping, and each corner shall be reinforced with suitable webbing hotmopped in place. All folds, laps and reinforcing webbing shall extend not less than 4 inches (102 mm) in all directions from the corner and all webbing shall be of approved type and mesh, producing a tensile strength of not less than 50 pounds per inch (893 kg/m) in either direction.~~

(Renumber subsequent sections)

Reason: The 2012 code incorporated approved liquid bonded systems complying with ANSI A118.10, made specifically for shower applications in Section 2709.2.4. The hot mopped system is an antiquated method that is not commonly used anymore. The products put together to make a hot mopped shower liner are not certified to any standard and are not intended to serve the specific shower use.

Cost Impact: This code change proposal will not increase the cost of construction.

RP38-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2709.2-RP-GRACE.DOC

RP39 – 13

P2710.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2710.1 Bathtub and shower spaces. Walls in shower compartments ~~walls~~ and walls above bathtubs that have wall-mounted showerheads shall be finished in accordance with Section R307.2.

Reason: The title infers that the section is about bathtub and shower spaces but the section only addresses showers. The code intent is to cover walls whether they are in showers or above bathtubs having showerheads.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 23 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP39-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2710.1 (NEW)-RP-HALL-PMGCAC

RP40 – 13

P2712.1, Chapter 44

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2712.1 Approval. Water closets shall conform to the water consumption requirements of Section P2903.2 and shall conform to Z124.4, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5. Water closets shall conform to the hydraulic performance requirements of ASME A112.19.2/CSA B45.1. Water closet tanks shall conform to ANSI Z124.4, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4 or CSA B45.5. Water closets that have an invisible seal and unventilated space or walls that are not thoroughly washed at each discharge shall be prohibited. Water closets that permit backflow of the contents of the bowl into the flush tank shall be prohibited. Water closets equipped with a dual flushing device shall comply with ASME A112.19.14.

Add new standard to Chapter 44 as follows:

ASME

A112.19.14–2006(R2011) Six-Liter Water Closets Equipped with a Dual Flushing Device

Reason: This revised language and addition of standard was approved for the 2015 IPC. Dual flush water closets which consist of a full flush of 1.6 gpf and a reduce flush of less than 1.1 gpf do exist and should be required to comply with some performance requirements. This is a National standard (ANSI) which covers the performance requirements for these types of systems.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X9 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A review of the standard proposed for inclusion in the code, ASME A112.19.14-2006(R2011) with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1, 2013.

RP40-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2712.1-RP-HALL-PMGCAC

RP41 – 13

P2712.1.1 (New)

Proponent: Christopher Salazar, Penguin Toilets LLC., representing Penguin Toilets LLC.

Add new text as follows:

P2712.1.1 Overflow protection. Where a water closet is installed in a location where an overflow of the water closet will cause damage to the building, the building shall be protected from water damage by one of the following:

1. A water closet listed to provide overflow protection.
2. A floor drain installed within same area as the water closet.
3. A method of protection *approved* by the building official.

Reason: To be in compliance with IRC section 101 .3: (to provide minimum standards to safeguard life or limb, health, property and public welfare) Toilet overflow (BLACKWATER spill) has not been addressed in the current code. Different from a grey water spill, a black water spill pose an unhealthy environment and is a very expensive event to mediate/repair. Adding this section into the code provides an additional safeguard to health, property and public welfare thus improving this code.

Cost Impact: Code change proposal will not increase the cost of construction. Cost impact is none too little depending on method of protection.

RP41-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2712.1.1 (NEW)-RP-SALAZAR.DOC

RP42 – 13

P2716.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2716.2 Water supply required. A sink equipped with a food waste grinders shall be provided with a faucet. ~~be provided with an adequate supply of water at a sufficient flow rate to ensure proper functioning of the unit.~~

Reason: What is “adequate”? What is a “sufficient flow rate”? What is “proper functioning of the unit”? All these terms are unenforceable code language and need to be removed. Requiring a faucet for the sink with a disposal unit is adequate coverage. It is up to the user to turn the faucet on when using the food waste grinder.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 25 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP42-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2716.2-RP-HALL-PMGCAC

RP43 – 13

P2717.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee
(Dave.Hall@georgetown.org)

Revise as follows:

P2717.1 Protection of water supply. ~~The water supply for dishwashers shall be protected by an air gap or integral backflow preventer.~~ The water supply to a dishwasher shall be protected against backflow by an *air gap* complying with ASME A112.1.3 or A112.1.2 that is installed integrally within the machine or a backflow preventer in accordance with Section P2902.

Reason: The requirement for dishwashing machines to comply with ASSE 1006 (covering the requirement for an internal air gap on the water supply) was removed from the 2012 code because DW manufacturers are no longer certifying their machines to ASSE 1006. Standards that they do comply with, ASME A112.1.3 or A112.1.2 are being included in this section so that inspectors are able to verify that the DWs have an integral backflow protection. A similar proposal to the 2015 IPC was Approved as Submitted. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 26 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP43-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2717.1-RP-HALL-PMGCAC

RP44 – 13

P2717.2, P2717.3

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2717.2 Sink and dishwasher. ~~The combined discharge from a sink and dishwasher shall be served by are permitted to discharge through a single trap of not less than 1 1/2 inches (38 mm) in nominal diameter trap.~~ The discharge pipe from the dishwasher shall be increased in size to not less than 3/4 inch (19 mm) inside diameter and before shall be connected ing with to a wye fitting in to the sink tailpiece. The waste discharge pipe from the dishwasher waste line shall rise and be securely fastened or held in a position to at the underside of the counter before connecting to the wye ~~sink tailpiece~~.

P2717.3 Sink, dishwasher and food waste grinder. The combined discharge from a sink, dishwasher, and food waste grinder shall be served by a single trap of not less than ~~is permitted to discharge through a single 1 1/2 inch (38 mm) in nominal diameter trap.~~ The discharge pipe from the dishwasher shall be increased in size to not less than 3/4 inch (19 mm) inside diameter and shall before connecting with to a wye fitting between the discharge of the food-waste grinder and the trap inlet. Alternatively, the discharge pipe from the dishwasher shall connect or to the head of the food waste grinder. The dishwasher discharge pipe waste line shall rise and be securely fastened or held in a position to at the underside of the counter before connecting to the wye sink tailpiece or the head of the food waste grinder.

Reason: The term "is permitted" is not mandatory code language. The proper term for a food grinder is a food waste grinder. The term "securely" is unenforceable. The term "or held in a position" was added primarily because the existing language seems to imply that the discharge pipe *has to be fastened* to the underside of the counter. This is a problem with granite countertops. The intent is that the piping be routed to the underside of the countertop and be held in some manner at that point. A common way to accomplish this is to drill a hole in the cabinet wall between the dishwasher and the sink cabinet, at the top of the cabinet wall (if the cabinet wall goes up to the underside of the countertop. Sometimes, the cabinet wall is not as tall and there a small gap. Then route the dishwasher discharge pipe through the hole or over the top of the cabinet wall. No fastening is needed (as it is very difficult to get into the cabinet and reach up between the sink and the cabinet wall to install a "fastener"). Intelligent routing is all that is necessary. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 27 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP44-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2717.2-RP-HALL-PMGCAC

RP45 – 13

P2718.2 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Add new text as follows:

P2718.2 Water connection. The water supply to an automatic clothes washer shall be protected against backflow by an air gap complying with ASME A112.1.3 or A112.1.2 that is installed integrally within the machine or a backflow preventer in accordance with Section P2902.

Reason: The requirement for automatic clothes washing machines to comply with ASSE 1007 (covering the requirement for an internal air gap on the water supply) was removed from the 2012 code because ACW manufacturers are no longer certifying their machines to ASSE 1007. Standards that they do comply with, ASME A112.1.3 or A112.1.2 are being included in this section so that inspectors are able to verify that the ACWs have an integral backflow protection. A similar proposal to the IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 28 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP45-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2718.2 (NEW)-RP-HALL-PMGCAC

RP46 – 13

P2722.2

Proponent: Len Swatkowski, Plumbing Manufacturers International (PMI), representing Plumbing Manufacturers International (lswatkowski@pmihome.org)

Revise as follows:

P2722.2 Operation for hot water. Faucets and bath tub mixing valves having two separate control handles for hot and cold water shall be installed with the left-hand handle controlling the hot water flow. Left-hand orientation shall be determined from the position of the user when using the plumbing fixture or in the case of a bathtub, the position of the user when in the tub. Fixture fittings supplied with both hot and cold water shall be installed and adjusted so that the left hand side of the water temperature control represents the flow of hot water when facing the outlet. Shower and tub/shower mixing valves conforming to ASSE 1016 or ASME A112.18.1/CSA B125.1 shall have markings on the device that indicate the handle position for hot water flow.

Exception: ~~Shower and tub/shower mixing valves conforming to ASSE 1016 or ASME A112.18.1/CSA B125.1, where the water temperature control corresponds to the markings on the device.~~

Reason: There have been calls from a number of code officials about how to apply this code section to these “side control” faucets. Technically, because the control does not have a left side and does not cause hot water to flow when moving a lever to the left, some code officials are calling this a non-compliant faucet. This language will correct the misinterpretation.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: The proponent indicated in his proposal submission that the standards shown in this code section, ASSE 1016 and ASME A112.18.1/CSA B125.1 have been recently harmonized into standard ASSE 1016-2011/ASME A112.1016-2011/CSA B125.16-11. The proponent's request for updating the standard for this section has been processed and will be included in a proposal for all standard updates that will be heard by the ADMIN committee in proposal ADM 62-13.

RP46-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2722.2-RP-SWATKOWSKI.DOC

RP47 – 13

P2725 (New), P2725.1 (New)

Proponent: Jeremy Brown, NSF International (brown@nsf.org)

Add new text as follows:

SECTION P2725 **NON-LIQUID SATURATED TREATMENT SYSTEMS**

P2725.1 General. Materials, design, construction and performance of non-liquid saturated treatment systems shall comply with NSF 41.

Add new standard to Chapter 44:

NSF

NSF 41-11 **Non-Liquid Saturated Treatment Systems**

Reason: NSF/ANSI-41 *Non-liquid Saturated Treatment Systems* is the American National Standard for the materials, design, construction and performance of composting toilets treating residential black water. Composting Toilets are a viable alternative are a viable alternative to traditional water closets and offer advantages of low water consumption. NSF/ANSI 41 is currently required in the IGCC.

Cost Impact: This code change proposal will not increase the cost of construction.

Analysis: A review of the standards proposed for inclusion in the code, CSA 22.2 No. 130 and UL 515 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1 2013.

RP47-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2725(NEW)-RP-BROWN.DOC

RP48 – 13

P2801.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2801.1 Hot water required. ~~Each dwelling~~ Hot water shall have an ~~approved automatic water heater or other type of domestic water heating system sufficient to supply hot water to~~ be supplied to plumbing fixtures and appliances intended for bathing, washing or culinary purposes. Hot water shall be supplied by an approved automatic water heater or other type of approved domestic water-heating system. Storage water heaters and hot water storage tanks shall be constructed of ~~noncorrosive~~ corrosion-resistant metal or shall be lined with ~~noncorrosive~~ corrosion-resistant material.

Reason: The existing language seems to imply that every dwelling unit must have its own water heater. What about a duplex building with a central water heater? We believe that the code only intends for hot water to be supplied to the plumbing fixtures of the dwelling(s) and not that each dwelling unit have a water heater. The existing language also implies that only automatic water heaters are required to be *approved*. Other types of domestic water heating systems do not appear to require approval. The new language corrects this. The word "sufficient" is ambiguous and is not enforceable. The existing text required that storage tanks be noncorrosive. What storage tanks? "Storage water heaters and hot water" was added to "storage tanks" to make the intent clear. Tanks are constructed of (or lined with) corrosion-resistant material, not noncorrosive material.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 30 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP48-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2801.1-RP-HALL-PMGCAC

RP49 – 13

P2801.2 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Add new text as follows:

P2801.2 Drain valves. Drain valves for emptying shall be installed at the bottom of each tank-type water heater and hot water storage tank. The drain valve inlet shall be a ¾ inch nominal iron pipe size and the outlet shall be provided with a male garden hose thread.

(Renumber subsequent sections)

Reason: The new language proposed provides for minimum requirements for water heater drain valves. Drain valves are necessary for draining water (and sediment) out of the tank. Yes, we know that it would be rare for a storage water heater or hot water storage tank to not be provided with a drain valve BUT if the code doesn't require it, the manufacturers (or installers) could save costs by eliminating the valve (they could claim that the tank could be drained by pumping from the inlet or outlet of the tank.) The IPC has had the valve requirement for a long time. The IRC needs to have the same coverage. A similar proposal to the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 29 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP49-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2801.2 (NEW)-RP-HALL-PMGCAC

RP50 – 13

P2801.5

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2801.5 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a galvanized steel pan having a material thickness of not less than 0.0236 inch (0.6010 mm) (No. 24 gage), or other pans approved for such use. ~~Listed pans shall comply with CSA LC3.~~

Reason: The language was struck because no such product exists that complies with the standard. The product that the standard covered was a thermoplastic combination water heater pan/elevation stand. Although the product met the requirements of the standard, in use it was determined that such products would weaken and cause the water heater to tip or collapse the stand. The product was pulled from the marketplace many years ago. CSA withdrew the standard in November 2011. The standard needs to be deleted from the code.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 31 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP50-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2801.5-RP-HALL-PMGCAC

RP51 – 13

P2801.5

Proponent: Jim Whitehead, IPS Corporation.

Revise as follows:

P2801.5 Required pan. Where a storage tank-type water heater or hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a pan constructed of one of the following:

1. galvanized steel pan having a material thickness of not less than 0.0236 inch (0.6010 mm) (No. 24) gage or a lesser gage number,
2. aluminum not less than 0.030 inch (0.8 mm) in thickness,
3. plastic not less than 0.036 inch (0.9 mm) in thickness
4. ~~other pans approved materials for such use.~~

~~Listed pans shall comply with CSA LC3. A plastic pan shall not be installed beneath a gas-fired water~~
water.

Reason: Aluminum and plastic water heater pans are frequently and commonly installed all across the United States even though the code doesn't currently include these materials as an option. I know this is a fact because IPS and other manufacturers produce and sell *tens of thousands* of aluminum and plastic water heater pans every year. In most areas, building officials really don't care what material the pan is made of, just as long as there is a pan. So why not make the code match what is current practice for many areas? Let's face it-a galvanized steel pan is ugly. It eventually gets rusty looking. The top edges, if not hemmed, are sharp (a cutting hazard) and the square corners are hard to seal. The top of the square corners can puncture things (like human flesh and the bottoms of jugs). THEN you want to require that galvanized steel pan to be installed in a finished area like a indoor utility room or a laundry room in a home? The home owner just doesn't want it.

Yes, the existing section currently says "or other pans approved for such use". But does the building official really need to be spending the time approving "other pans" for use on a job-by-job basis? In reality, when the building official shows up to inspect, the pan is in place (beneath a water heater that is plumbed and filled with water). Is that the time for the building official to be making a decision about whether the pan material is *approved*? This proposal will eliminate the questions and free up building official time in order to deal with more important issues.

So if aluminum pans and plastic pans are being *approved* (and again we know that they must be as *tens of thousands* of these pans are sold every year), then there needs to be some criteria for these types of pans. The thicknesses indicated for aluminum and plastic materials have been determined to be at least equivalent to the galvanized steel with regard to deflection (of the sides of the pan) and puncture resistance. NOT ALL MANUFACTURERS OF ALUMINUM AND PLASTIC PANS HAVE CONSIDERED THIS IN THEIR SELECTION OF MATERIAL THICKNESSES. And we are positive that some building officials have developed a bad opinion about allowing the use of aluminum and plastic because of their experiences with competitor's products that use lighter weight materials than what is proposed. There are at least a few of us responsible manufacturers who produce quality aluminum and plastic pans that meet the proposed requirements. Based upon our field surveys of our pans in use, these thicknesses provide for a durable product that remains serviceable, corrosion free and good looking for the life of a typical water heater if not two water heater lives.

"Listed pans shall comply with CSA LC3" is being deleted because there is not any pan produced in the United States that complies with that standard. When this standard was introduced into to the code, there was a product, available to the market, that met this standard. The standard was actually developed around this pan/stand design. Furthermore this standard was developed using the stand/pan in combination. Most pans are placed directly on the floor and not elevated on a stand. Also, the product was discontinued because of design problems. (The product was a combination elevation stand and pan assembly). CSA withdrew the standard in November 2011. There is not a need to have this standard in the code any longer and we don't want someone trying to bring a product to the market that meets this standard. Obviously, the standard isn't up to snuff because the products made to the standard didn't work out. The standard needs to be deleted from the code.

The last line about prohibiting the use of a plastic pan under a gas fired water heater is simple common sense. Although we have not heard of any problems with the use of our plastic pans for gas water heaters, the radiant heat coming from the bottom of a gas fired water heater could make a plastic pan more susceptible to puncturing (such as might be caused by the legs of a water heater). The Uniform Plumbing Code has this prohibition so the same prohibition in the I-codes seems appropriate.

Cost Impact: The code change proposal will not increase the cost of construction. In fact, factory-made aluminum and plastic water heater pans are, by far, much more economical than a galvanized steel pan that is made in a local sheet metal shop.

RP51-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2801.5-RP-WHITEHEAD

RP52 – 13

P2801.5.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2801.5.1 Pan size and drain. The pan shall be not less than 1½ inches (38 mm) deep and shall be not less than 3 inches (76 mm) greater in diameter than the diameter of the water heater or hot water storage tank, be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste drain pipe connected to the pan. The drain pipe shall be of not less than ¾ inch (19 mm) nominal diameter. Piping for safety pan drains and shall be of any of the ~~those materials listed~~ indicated in Table P2905.5. Pipe fittings for the drain pipe shall be in accordance with Section P2905.6 except that insert-type fittings shall not be installed in the drain piping.

Reason: This section needs to include the horizontal dimension of the pan with respect to the water heater. Some installations have been observed where the pan exactly fits the bottom of the water heater. This does not allow any space for water in the pan to flow to the pan drain on the side of the pan. The drain is now specifically required to be on the side of the pan so that it is less likely to become blocked. The improved wording also prevents a water heater from being located in the pan where the water heater blocks the drain outlet on the side of the pan. The 3 inches over sizing was based on the same pan requirement in the mechanical code for HVAC units. The struck language in the first sentence is archaic and vague. The existing language also failed to identify what fittings should be used for drain piping. The new language corrects this omission. While the existing language specifies the type of pipe to be used, it doesn't specify the fittings. The last sentence is added to clarify the fittings that must be used. Note the restriction against using insert fittings...the ¾ inches minimum size is already small enough without putting insert fittings in the piping to further reduce the diameter. Such reductions in internal diameter could catch lint and rust particles that could easily block flow.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 32 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP52-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2801.5.1-RP-HALL-PMGCAC

RP53 – 13

P2801.5.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2801.5.2 Pan drain termination. The pan drain shall extend full-size and terminate over a suitably located indirect waste receptor or shall extend to the exterior of the building and terminate not less than 6 inches (152 mm) and not more than 24 inches (610 mm) above the adjacent ground surface. Where a pan drain was not previously installed, a pan drain shall not be required for a replacement water heater installation.

Reason: The replacement of an existing water heater must be installed to the current code as if it was a new installation. If the original water heater installation did not require a pan, then in many cases, there is not a suitable disposal point for a pan drain. However, if the installation requires a pan, the current code requires that the pan have a pan drain. Many times, there is not a way to provide for a suitable disposal point for the pan drain. For example, consider a slab-on-grade building where the water heater is located in the center of the building where there is not a floor drain or waste receptor. When that water heater is replaced, the current code requires that the water heater have a pan and that the pan have a pan drain (that runs to a suitable disposal point). How is this to be accomplished in this existing building? There is not a solution. Therefore, the proposed language provides an exception for replacement water heaters to not be required to have a pan drain, if the installation requires a pan. This same proposal to the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 33 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP53-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2801.5.2-RP-HALL-PMGCAC

RP54 – 13

P2803.1, P2803.2 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2803.1 Relief valves required. ~~Storage water heaters and hot water storage tanks. Appliances and equipment used for heating water or storing hot water shall be protected against over-pressure and over-temperature conditions by one of the following methods:~~

1. A separate pressure-relief valve and a separate temperature-relief valve ; ~~or~~
2. A combination pressure- and temperature-relief valve.

P2803.2 Instantaneous fuel-gas fired water heater relief valve. A fuel-gas fired instantaneous water heater shall be protected against over-pressure conditions by a pressure relief valve. The valve shall be located on the cold water inlet piping to the heater at a point that is downstream of all external valves except where the heater manufacturer's instructions require the valve be located elsewhere.

(Renumber subsequent sections)

Reason: In Section P2803.1, the terms “appliances and equipment” is not specific to the coverage that is intended by the code. Chapter 28 is about water heaters. Example: an electric hot drinking-water unit (under a kitchen sink) is an appliance that heats and stores water. The section never says what the heaters or tanks are being protected against. Adding “over-pressure” and “over temperature” clarifies this.

A question that is often asked is whether existing Section P2803.1 applied to instantaneous (“tankless”) water heaters as it is impossible to install a temperature relief valve (in accordance with Section P2803.4) as there is no tank! A new section is added to cover gas instantaneous (“tankless”) water heaters. The fuel gas-fired instantaneous water heater industry is waffling about whether a pressure relief valve is required and most have in their instructions “it’s up to the local code official or jurisdiction”. Many questions come up about this and code officials are not sure what to do. We need to settle the debate by simply requiring the pressure relief valve at least for the gas-fired tankless water heaters. Note that electric instantaneous water heaters are exempt from having a PRV by the UL listing for those products. While the code *could* be written to require PRVs for electric tankless water heaters, it is impractical to install PRVs for the small electric units (think of the one fixture, under the cabinet type) and then the issue is where to route the discharge pipe. Generally, the gas instantaneous (“tankless”) water heaters are for the whole building and are installed in a basement, garage or other location (outside) where routing of the PRV pipe is no more difficult than it is for a storage tank water heater.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 34 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP54-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2803.1-RP-HALL-PMGCAC

RP55 – 13

2803.6.1

Proponent: Richard Grace, Fairfax County, representing Virginia Plumbing and Mechanical Inspectors Association and Virginia Building and Code Officials Association (Richard.Grace@fairfaxcounty.gov); Roger Harper, Jr, Louisa County VA representing, the Virginia Plumbing and Mechanical Inspectors Association and The Virginia Building Code Officials Association (sharper@louisa.org)

Revise as follows:

2803.6.1 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

(Items 1-9 remain unchanged)

10. ~~Not~~ Terminate not more than 6 inches (152 mm) and not less than two times the discharge pipe diameter above the floor or waste receptor flood level rim.

Reason: This is consistent language proposed to the IPC. A minimum distance is not stated. Typically, the minimum air gap would be two nominal pipe diameters as stated in the IPC Section 802.2.1 for indirect wastes pipe.

Cost Impact: This code change proposal will not increase the cost of construction.

RP55-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2803.6.1-RP-GRACE.DOC

RP56 – 13

P2803.6.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2803.6.1 Requirements for discharge pipe. The discharge piping serving a pressure-relief valve, temperature relief valve or combination valve shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to a waste receptor or to the pan serving the water heater or storage tank or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of the piping.
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section P2905.5 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.
14. Be one nominal size larger than the size of the relief valve outlet, where the relief valve discharge piping is constructed of PEX or PE-RT tubing. The outlet end of such tubing shall be fastened in place.

Reason: PEX and PE-RT tubing use insert fittings for connections. The bore size for a ¾ inch male adapter fitting is very small such that there is concern that the discharge from a T & P valve could be restricted and be a safety concern. The new language requires that PEX and PE-RT tubing used for relief valve discharge piping be one size larger so that the insert fitting has a larger bore and less of a safety concern.

PEX and PE-RT tubing is very flexible and where supplied from a coil, the tubing has a memory to stay in a coil shape. This flexibility and memory to a coil shape can present installation problems of keeping the discharge end of the tubing in its proper location. Therefore, new language is being added to require that the outlet end of the tubing be fastened in place. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 35 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will increase the cost of construction.

RP56-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2803.6.1-RP-HALL-PMGCAC

RP57 – 13

P2901.1, P2901.2 (New), P2901.2.1 (New), P2901.2.2 (New), P2901.2.3 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2901.1 Potable water required. Potable water shall be supplied to plumbing fixtures and plumbing appliances in dwelling units shall be supplied with potable water in the amounts and pressures specified in this chapter except where treated rainwater, treated gray water or municipal reclaimed water is supplied to water closets, urinals and trap primers. Where a nonpotable water distribution system is installed, the nonpotable system shall be identified by color marking, metal tags or other appropriate method. Where color is used for marking, purple shall be used to identify municipally reclaimed water, rainwater and graywater distribution systems. Nonpotable water outlets that could inadvertently be used for drinking or domestic purposes shall be posted.

P2901.2 Identification of nonpotable water systems. Where nonpotable water systems are installed, the piping conveying the nonpotable water shall be identified either by color marking, metal tags or tape in accordance with Sections P2901.2.1 through P2901.2.2.3.

P2901.2.1 Signage Required. All nonpotable water outlets such as hose connections, open ended pipes, and faucets shall be identified with signage that reads as follows: "Non-potable water is utilized for [application name]. Caution: non-potable water. DO NOT DRINK." The words shall be legibly and indelibly printed on a tag or sign constructed of corrosion-resistant waterproof material or shall be indelibly printed on the fixture. The letters of the words shall be not less than 0.5 inches in height and in colors in contrast to the background on which they are applied. In addition to the required wordage, the pictograph shown in Figure P2901.2.1 shall appear on the signage required by this section.



FIGURE P2901.2.1
Pictograph – DO NOT DRINK

P2901.2.2 Distribution Pipe Labeling and Marking. Non-potable distribution piping shall be of the color purple and shall be embossed or integrally stamped or marked with the words: "CAUTION: NONPOTABLE WATER – DO NOT DRINK" or shall be installed with a purple identification tape or wrap. Pipe identification shall include the contents of the piping system and an arrow indicating the direction of flow. Hazardous piping systems shall also contain information addressing the nature of the hazard. Pipe identification shall be repeated at intervals not exceeding 25 feet (7620 mm) and at each point where the piping passes through a wall, floor or roof. Lettering shall be readily observable within the room or space where the piping is located.

P2901.2.2.1 Color. The color of the pipe identification shall be discernable and consistent throughout the building. The color purple shall be used to identify reclaimed, rain and gray water distribution systems.

P2901.2.2 .2 Lettering Size. The size of the background color field and lettering shall comply with Table P2901.2.2.2.

TABLE P2901.2.2 .2
SIZE OF PIPE IDENTIFICATION

<u>PIPE DIAMETER</u> <u>(inches)</u>	<u>LENGTH BACKGROUND</u> <u>COLOR FIELD</u> <u>(inches)</u>	<u>SIZE OF LETTERS</u> <u>(inches)</u>
<u>¾ to 1 ¼</u>	<u>8</u>	<u>0.5</u>
<u>1 ½ to 2</u>	<u>8</u>	<u>0.75</u>
<u>2 ½ to 6</u>	<u>12</u>	<u>1.25</u>
<u>8 to 10</u>	<u>2</u>	<u>2.5</u>
<u>over 10</u>	<u>32</u>	<u>3.5</u>

For SI: 1 inch = 25.4 mm.

P2901.2.2 .3 Identification Tape. Where used, identification tape shall be at least 3 inches wide and have white or black lettering on purple field stating “CAUTION: NON-POTABLE WATER – DO NOT DRINK”. Identification tape shall be installed on top of non-potable rainwater distribution pipes, fastened at least every 10 feet to each pipe length and run continuously the entire length of the pipe.

Reason: The phrase “in *dwelling units* shall be supplied with water in the amounts and pressures specified in this chapter” is not necessary because the code already spells out the requirements in other sections.

Water distribution systems of other than potable water are being installed in buildings and the code needs to require marking of the piping and signage for the outlets for safety reasons. The basis for this new language is text from the IgCC and is written to be in alignment with the IgCC requirements. A similar proposal to the 2015 IPC was Approved as Modified by Public Comment. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 36 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will increase the cost of construction

RP57-13

Public Hearing: Committee: AS AM D
 AMF DF
 ASF

P2901.1-RP-HALL-PMGCAC

RP58 – 13

P2902.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.1 General. A potable water supply system shall be designed and installed as to prevent contamination from nonpotable liquids, solids or gases being introduced into the potable water supply. Connections shall not be made to a potable water supply in a manner that could contaminate the water supply or provide a cross-connection between the supply and a source of contamination except where approved backflow prevention assemblies, backflow prevention devices or other means or methods are installed to protect the potable water supply. Cross-connections between an individual water supply and a potable public water supply shall be prohibited.

Reason: This same language addition was Approved as Submitted for the 2015 IPC. “Methods” are not defined in the definitions. The term from Chapter 2 is “Backflow Preventer. The definition of methods would be complete and precise with a change to: “BACKFLOW PREVENTER. A backflow prevention assembly, a backflow prevention device or other means or method to prevent backflow into the potable water supply.”

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X19 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP58-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.1-RP-HALL-PMGCAC

RP59 – 13

P2902.1

Proponent: Michael S. Moss, representing American Backflow Prevention Association
(msmoss@utah.gov)

Revise as follows:

P2902.1 General. A potable water supply system shall be designed and installed so as to prevent contamination from nonpotable liquids, solids or gases being introduced into the potable water supply. Connections shall not be made to a potable water supply in a manner that could contaminate the water supply or provide a cross-connection between the supply and a source of contamination except where approved ~~methods~~ backflow preventers are installed to protect the potable water supply. Cross-connections between an individual water supply and a potable public water supply shall be prohibited.

Reason: "Methods" are not defined in the definitions. The term from Chapter 2 is "Backflow Preventer. The definition of methods would be complete and precise with a change to: "BACKFLOW PREVENTER. A backflow prevention assembly, a backflow prevention device or other means or method to prevent backflow into the potable water supply."

Cost Impact: The code change proposal will not increase the cost of construction.

RP59-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.1-RP-MOSS

RP60 – 13

P2902.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.2 Plumbing fixtures. ~~The supply lines and fittings for every plumbing fixture shall be installed so as to prevent backflow.~~ At the points of interconnection between the hot and cold water supply piping systems and the individual fixtures, appliances or devices, provisions shall be made to prevent flow between such piping systems. Plumbing fixture fittings shall provide for backflow protection in accordance with ASME A112.18.1/CSA B125.1.

Reason: The struck sentence doesn't seem to make sense. We believe the intent is what is stated in IPC Section 604.2 about prohibiting interconnections between hot and cold supply piping systems. The IPC language has been added to the section. The original intent of the IPC language was to prevent interconnection between the hot and cold so that the hot water in water heater would not be depleted by cold water draws from cold water outlets on the system. For example, consider a "wye hose" connected to a single outlet laundry faucet (left open) and the two outlets connected to the hot and cold of a clothes washer. Such arrangements cause havoc in the water system. However, in later years, this language takes on more importance when requirements were put in the code for some components of the water system to be NSF 61 compliant. (NSF 61 ensures that components used in water systems will not impart unsafe things to water intended for human consumption). Hot water storage tanks are not NSF 61 compliant which is okay because the general consensus of the drinking water authorities is that rarely do people drink hot water from the tap (well, at least not on a regular basis). The connections in a water distribution system shouldn't allow cross flow between cold and hot so that people are not drinking water that came from a water heater (they might not ever know it as hot water cools down after some time before a draw is made from a cold water tap).

Recent Federal legislation requires after Jan 2014, that drinking and cooking water must not be exposed to water system components that has a lead content of greater than 0.25 percent in the wetted surfaces of the components. There is another proposal submitted by PMGCAC that adds this requirement to the code. (This "low lead" requirement was Approved as Submitted for the 2015 IPC). Now this revised language of P2902.2 takes on even greater importance, that being to not allow water that has been exposed to the hot water system to enter the cold water system where water is drawn from for drinking and cooking. Hot water system components are not required to be "low lead" so allowing water in the hot water system to flow into the cold water system is a violation of Federal law. The revision of this section is necessary to prevent the installation of plumbing that would cause "high lead" water to be drawn from a cold drinking water outlet.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 37 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP60-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.2-RP-HALL-PMGCAC

RP61 – 13

P2902.3.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.3.1 Air gaps. Air gaps shall comply with ASME A112.1.2 and air gap fittings shall comply with ASME A112.1.3. ~~The minimum~~ An air gap shall be measured vertically from the lowest end of a water supply-outlet to the flood level rim of the fixture or receptor into which ~~such potable~~ the water outlets discharges or to the floor. The ~~minimum~~ required air gap shall be not less than twice the diameter of the effective opening of the outlet, ~~but in no case~~ and not less than the values specified in Table P2902.3.1. ~~An air gap is required at the discharge point of a relief valve or piping. Air gap devices shall be incorporated in dishwashing and clothes washing appliances.~~

Reason: The second to the last sentence of the section is redundant with Section P2803.6.1, Item 2 and should be deleted. The last sentence is redundant with Section P2717.1 for dishwashers. A new section is being proposed in another proposal to cover clothes washers in the same manner as dishwashers were covered. The remaining changes to the section are to clean up the wording. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 38 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP61-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.3.1-RP-HALL-PMGCAC

RP62 – 13

P2902.3.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.3.2 Atmospheric-type vacuum breakers. ~~Pipe-applied~~ Atmospheric-type vacuum breakers shall conform to ASSE 1001 or CSA B64.1.1. Hose-connection vacuum breakers shall conform to ASSE 1011, ASSE 1019, ASSE 1035, ASSE 1052, CSA B64.2, CSA B64.2.1, CSA B64.2.1.1, CSA B64.2.2 or CSA B64.7. Both types of vacuum breakers shall be installed such with the outlet continuously open to the atmosphere. ~~These devices shall operate under normal atmospheric pressure when the critical level is installed at the required height.~~

Reason: The last sentence of this section doesn't make a lot of sense. The new language explains the outlet conditions that must be met for these types of backflow devices.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 39 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP62-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.3.2-RP-HALL-PMGCAC

RP63 – 13

P2902.3.2

Proponent: Michael S. Moss, representing American Backflow Prevention Association
(msmoss@utah.gov)

Revise as follows:

P2902.3.2 Atmospheric-type vacuum breakers. ~~Pipe applied~~ Atmospheric-type vacuum breakers shall conform to ASSE 1001 or CSA B64.1.1. Hose-connection vacuum breakers shall conform to ASSE 1011, ASSE 1019, ASSE 1035, ASSE 1052, CSA B64.2, CSA B64.2.1, CSA B64.2.1.1, CSA B64.2.2 or CSA B64.7. These ~~devices~~ vacuum breakers shall operate under normal atmospheric pressure when the critical level is installed at the required height. The critical level of the atmospheric vacuum breaker shall be set at not less than 6 inches (152 mm) above the highest elevation of downstream piping and the flood level rim of the fixture or device.

Reason: Installation of vacuum breakers needs to be compliant with published manufacturer installation instructions. The information is the minimum standard for industry. This installation criterion provides adequate protection of the water supply and ensures protection of public health.

Cost Impact: The code change proposal will not increase the cost of construction.

RP63-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.3.2-RP-MOSS

RP64 – 13

P2902.3.3

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.3.3 Backflow preventer with intermediate atmospheric vent. Backflow preventers with intermediate atmospheric vents shall conform to ASSE 1012 or CSA B64.3. These devices shall be designed for the outlet to be ~~permitted to be installed where~~ subject to continuous pressure conditions. The relief opening shall discharge by air gap and shall be prevented from being submerged.

Reason: The term “shall be permitted” is not mandatory code language. The section was reworded to eliminate the term. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 40 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP64-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.3.3-RP-HALL-PMGCAC

RP65 – 13

P2902.3.3

Proponent: Michael S. Moss, representing American Backflow Prevention Association
(msmoss@utah.gov)

Revise as follows:

P2902.3.3 Backflow preventer with intermediate atmospheric vent. Backflow with intermediate atmospheric vents shall conform to ASSE 1012 or CSA B64.3. These devices shall be permitted to be installed where subject to continuous pressure conditions. These devices shall be prohibited as a means of protection where any chemical additives are introduced downstream of the device. The relief opening shall discharge by air gap and shall be prevented from being submerged.

Reason: These backflow preventers are designed and sold for non-health hazard installations according to manufacturer specification sheets. They are inadequate for chemical additions or injections. Their use should be limited to potable water systems within a residential system only. Reference Sections P2902.5.4.1 and Section P2902.5.1.

Cost Impact: The code change proposal will not increase the cost of construction.

RP65-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.3.3-RP-MOSS

RP66 – 13

P2902.3.4

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.3.4 Pressure vacuum breaker assemblies. Pressure vacuum breaker assemblies shall conform to ASSE 1020 or CSA B64.1.2. Spill-resistant vacuum breaker assemblies shall comply with ASSE 1056. These assemblies ~~are shall be~~ designed for the outlet to be subject to installation under continuous pressure conditions. where the critical level is installed at the required height. Pressure vacuum breaker assemblies shall not be installed in locations where ~~spillage~~ leakage of water from the assembly could cause damage to the structure.

Reason: The third sentence is in non-mandatory language and the critical height has nothing to do with the assembly's capability to accept pressure on the outlet of the assembly. The term "spillage" is vague (spillage of what?) and doesn't truly say what the intent is.

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Cost impact: The code change proposal will not increase the cost of construction.

RP66-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.3.4-RP-HALL-PMGCAC

RP67 – 13

P2902.3.4

Proponent: Michael S. Moss, representing American Backflow Prevention Association
(msmoss@utah.gov)

Revise as follows:

P2902.3.4 Pressure vacuum breaker assemblies. Pressure vacuum breaker assemblies shall conform to ASSE 1020 or CSA B64.1.2. Spill-resistant vacuum breaker assemblies shall comply with ASSE 1056. These assemblies are designed for installation under continuous pressure conditions where the critical level is installed at the required height. The critical level of a pressure vacuum breaker and a spill resistant vacuum breaker assembly shall be set at not less than 12 inches (304 mm) above the highest elevation of downstream piping and the flood level rim of the fixture or device. Pressure vacuum breaker assemblies shall not be installed in locations where spillage could cause damage to the structure.

Reason: Installation of different types of vacuum breakers within this section conflicts with published manufacturer installation instructions. Manufacturer literature recommends 12 inch installation above downstream piping and outlets for PVB's and SVB's for most conditions. This provides adequate protection of the water supply and ensures protection of public health.

Cost Impact: The code change proposal will not increase the cost of construction.

RP67-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.3.4-RP-MOSS

RP68 – 13

P2902.3.5

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.3.5 Reduced pressure principle backflow prevention assemblies. Reduced pressure principle backflow prevention assemblies and reduced pressure principle fire protection backflow prevention assemblies shall conform to ASSE 1013, AWWA C511, CSA B64.4 or CSA B64.4.1. Reduced pressure detector fire protection backflow prevention assemblies shall conform to ASSE 1047. These devices assemblies shall be designed for the outlet to be permitted to be installed where subject to continuous pressure conditions. The relief opening shall discharge by air gap and shall be prevented from being submerged.

Reason: The term “shall be permitted” is not mandatory code language. The language was revised to make the intent clear. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 42 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP68-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.3.5-RP-HALL-PMGCAC

RP69 – 13

P2902.3.6

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.3.6 Double check-valve assemblies. Double check-valve assemblies shall conform to ASSE 1015, CSA B64.5, CSA B64.5.1 or AWWA C510. Double detector check-valve assemblies shall conform to ASSE 1048. These ~~devices-assemblies~~ shall be designed for the outlet to be subject to ~~capable of operating under~~ continuous pressure conditions.

Reason: The last sentence doesn't really say what is intended. The revision corrects the problem.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 43 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP69-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.3.6-RP-HALL-PMGCAC

RP70 – 13

P2902.3.6

Proponent: Michael S. Moss, representing American Backflow Prevention Association
(msmoss@utah.gov)

Revise as follows:

P2902.3.6 Double check-valve backflow prevention assemblies. Double check-valve backflow prevention assemblies shall conform to ASSE 1015, CSA B64.5, CSA B64.5.1 or AWWA C510. Double-detector check-valve detector fire protection backflow prevention assemblies shall conform to ASSE 1048. These devices assemblies shall be capable of operating under continuous pressure conditions.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

RP70-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.3.6-RP-MOSS

RP71 – 13

Table P2902.3

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org); Michael S. Moss, representing American Backflow Prevention Association (msmoss@utah.gov)

Revise as follows:

TABLE P2902.3
APPLICATION OF BACKFLOW PREVENTERS

DEVICE	DEGREE OF HAZARD ^a	APPLICATION ^b	APPLICABLE STANDARDS
<u>BACKFLOW PREVENTION ASSEMBLIES:</u>			
Double check backflow prevention assembly and double check fire protection backflow prevention assembly	Low hazard	Backpressure or backsiphonage Sizes 3/8" - 16"	ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double check detector fire protection backflow prevention assemblies	Low hazard	Backpressure or backsiphonage Sizes 3/8" - 16"	ASSE 1048
Pressure vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/2" - 2"	ASSE 1020, CSA B64.1.2
Reduced pressure principle backflow prevention assembly and reduced pressure principle fire protection backflow assembly	High or low hazard	Backpressure or backsiphonage Sizes 3/8" – 16 "	ASSE 1013, AWWA C511, CSA B64.4, CSA B64.4.1
Reduced pressure detector fire protection backflow prevention assemblies	High or low hazard	Backpressure or backsiphonage (Fire Sprinkler Systems)	ASSE 1047
Spill-resistant vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/2" - 2"	ASSE 1056
<u>BACKFLOW PREVENTER PLUMBING DEVICES:</u>			
Antisiphon-type fill valves for gravity water closet flush tanks	High hazard	Backsiphonage only	ASSE 1002, CSA B125.3
Backflow preventer for carbonated beverage machines	Low hazard	Backpressure or backsiphonage Sizes 1/4" – 3/8"	ASSE 1022
Backflow preventer with intermediate atmospheric vents	Low hazard	Backpressure or backsiphonage Sizes 1/4" – 3/8"	ASSE 1012, CSA B64.3
Dual check valve type backflow preventers	Low hazard	Backpressure or backsiphonage Sizes 1/4"-1"	ASSE 1024, CSA B64.6
Hose connection backflow preventer	High or low hazard	Low head backpressure, rated working pressure, backpressure or backsiphonage Sizes 1/2"- 1"	ASSE 1052, CSA B64.2, B64.2.1

DEVICE	DEGREE OF HAZARD ^a	APPLICATION ^b	APPLICABLE STANDARDS
Hose connection vacuum breaker	High or low hazard	Low head backpressure or backsiphonage only Sizes 1/2", 3/4", 1"	ASSE 1011, CAN/CSA B64.1.1
Laboratory Faucet Backflow Preventer	High or low hazard	Low head backpressure and backsiphonage	ASSE 1035, CSA B64.7
Atmospheric type vacuum breaker	High or low hazard	Backsiphonage only Sizes 1/2" - 4"	ASSE 1001, CSA B64.1.1
Vacuum breaker wall hydrants, frost resistant, automatic draining type	High or low hazard	Low head backpressure and backsiphonage Sizes 3/4", 1"	ASSE 1019, CSA B64.2.2
<u>OTHER MEANS or METHODS:</u>			
Air gap	High or low hazard	Backsiphonage only	ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard	Backpressure or backsiphonage	ASME A112.1.3
Barometric loop	High or low hazard	Backsiphonage only	(See Section 608.13.4)

For SI: 1 inch = 25.4 mm

a. Low Hazard - See Pollution (Section 202), High Hazard - See Contamination (Section 202)

b. See Backpressure (Section 202), See Backpressure, low head (Section 202), See Backsiphonage (Section 202)

Reasons:

[Hall-PMGCAC] This same proposal was Approved as Submitted for the 2015 IPC. There is much confusion concerning protection provided by any 'backflow preventer'. Reorganizing this table would better identify proper and correct applications for code users by identifying the different protection methods: assemblies, backflow prevention devices and other means or methods. The existing table gives the mistaken understanding that "any of the above provides adequate protection for any job". This is not true. Adequate protection is based on hazard classification, application and proper installation. Backflow prevention assemblies are specifically recognized and accepted as separate and distinct units based on Section P2503.8 because of their requirement for periodic testing to ensure proper and reliable operation in order to protect public health.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X18 on the PMGCAC IRC-P list.

[MOSS] There is much confusion concerning protection provided by any 'backflow preventer'. Reorganizing this table would better identify proper and correct applications for code users by identifying the different protection methods: assemblies, backflow prevention devices and other means or methods. The existing table gives the mistaken understanding that "any of the above provides adequate protection for any job". This is not true. Adequate protection is based on hazard classification, application and proper installation. Backflow prevention assemblies are specifically recognized and accepted as separate and distinct units based on Section P2503.8 because of their requirement for periodic testing to ensure proper and reliable operation in order to protect public health.

Cost Impact: The code change proposal will not increase the cost of construction.

RP71-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P2902.3T-RP-HALL-PMGCAC

RP72 – 13

P2902.4

Proponent: Michael S. Moss, representing American Backflow Prevention Association
(msmoss@utah.gov)

Revise as follows:

P2902.4 Protection of potable water outlets. Potable water openings and outlets shall be protected by an air gap, a reduced pressure principle backflow preventer ~~or an assembly with atmospheric vent, an atmospheric-type vacuum breaker, a pressure-type vacuum breaker assembly or a hose connection backflow preventer.~~

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

RP72-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.4-RP-MOSS

RP73 – 13

P2902.4.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.4.1 Fill valves. Flush tanks shall be equipped with an antisiphon fill valve conforming to ASSE 1002 or CSA B125.3. The critical level of the fill valve ~~backflow preventer~~ shall be located not less than 1 inch (25 mm) above the ~~full opening top~~ of the flush tank overflow pipe.

Reason: The current wording is sloppy and incomplete. The revision cleans up the text and makes the intent clear. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 44 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP73-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.4.1-RP-HALL-PMGCAC

RP74 – 13

P2902.4.3

Proponent: Michael S. Moss, representing American Backflow Prevention Association
(msmoss@utah.gov)

Revise as follows:

P2902.4.3 Hose connection. Sillcocks, hose bibbs, wall hydrants and other openings with a hose connection shall be protected by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker assembly or a permanently attached hose connection vacuum breaker.

Exceptions:

1. This section shall not apply to water heater and boiler drain valves that are provided with hose connection threads and that are intended only for tank or vessel draining.
2. This section shall not apply to water supply valves intended for connection of clothes washing machines where backflow prevention is otherwise provided or is integral with the machine.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

RP74-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.4.3-RP-MOSS

RP75 – 13

P2902.5.1

Proponent: Michael S. Moss, representing American Backflow Prevention Association
(msmoss@utah.gov)

Revise as follows:

P2902.5.1 Connections to boilers. ~~The potable supply to the boiler shall be equipped with a backflow preventer with an intermediate atmospheric vent complying with ASSE 1012 or CSA B64.3. Where conditioning chemicals are introduced into the system,~~ The potable water connection to a boiler shall be protected by an *air gap* or a reduced pressure principle backflow preventer on assembly complying with ASSE 1013, CSA B64.4 or AWWA C511.

Reason: These assemblies are designed and sold for high-health hazard installations according to manufacturer specification sheets. They are adequate for chemical additions or injections. Reduced pressure principle backflow *preventer* corrected to reduced pressure principle backflow *prevention assembly* to provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

RP75-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.5.1-RP-MOSS

RP76 – 13

P2902.5.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2902.5.2 Heat exchangers. Heat exchangers using an *essentially toxic transfer fluid* shall be separated from the potable water by double-wall construction. An air gap open to the atmosphere shall be provided between the two walls. Single-wall construction heat exchangers shall be used only where an *essentially nontoxic transfer fluid* is utilized~~ing is an essentially nontoxic. transfer fluid shall be permitted to be of single-wall construction.~~

Reason: The term “shall be permitted” is not mandatory code language. The revised language corrects this problem. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 45 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP76-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.5.2-RP-HALL-PMGCAC

RP77 – 13

P2902.5.5

Proponent: Michael S. Moss, representing American Backflow Prevention Association
(msmoss@utah.gov)

Revise as follows:

P2902.5.5 Solar systems. The potable water supply to a solar system shall be equipped with a backflow preventer with intermediate atmospheric vent complying with ASSE 1012 or a reduced pressure principle backflow preventer on assembly complying with ASSE 1013. Where chemicals are used, the potable water supply shall be protected by a reduced pressure principle backflow preventer on assembly.

Exception: Where all solar system piping is a part of the potable water distribution system, in accordance with the requirements of the *International Plumbing Code*, and all components of the piping system are listed for potable water use, ~~cross-connection protection measures~~ backflow protection shall not be required.

Reason: To provide consistent terminology throughout the code for reference and comparison.

Cost Impact: The code change proposal will not increase the cost of construction.

RP77-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2902.5.5-RP-MOSS

RP78 – 13

P2902.5.6 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Add new text as follows:

P2902.5.6 Yard hydrants. The potable water supply to a frost proof yard hydrant having a stop-and-waste valve located underground or below grade shall be protected against backflow by a reduced pressure principle backflow prevention assembly.

Reason: There is no way to know what type of health hazard the stop and waste opening of a yard hydrant will be exposed to. The contaminants could include lawn fertilizer, animal wastes, garden fertilizer or septic tank effluent. The code currently lacks coverage for what type of backflow protection is necessary for this application which has some code officials choosing simple a dual check valve which is only suitable for low hazard. This is an accident waiting to happen.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 53 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will increase the cost of construction.

RP78-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2902.5.6 (NEW)-RP-HALL-PMGCAC

RP79 – 13

Table P2903.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

**TABLE P2903.1
REQUIRED CAPACITIES AT POINT OF OUTLET DISCHARGE**

FIXTURE SUPPLY OUTLET SERVING	FLOW RATE (gpm)	FLOW PRESSURE (psi)
Bathtub, pressure balanced <u>balanced-pressure or, thermostatic or combination balanced-pressure/thermostatic mixing valve</u>	4	20
Bidet, <u>thermostatic mixing valve</u>	2	20
Dishwasher	2.75	8
Laundry tub <u>tray</u>	4	8
Lavatory	2 <u>0.8</u>	8
Shower, pressure balanced <u>balanced-pressure or, thermostatic or combination balanced-pressure/thermostatic mixing valve</u>	3 <u>2.5^a</u>	20
Sillcock, hose bibb	5	8
Sink	2.5 <u>1.75</u>	8
Water closet, flushometer tank	1.6	20
Water closet, tank, close coupled	3	20
Water closet, tank, one piece	6	20

For SI: 1 pound per square inch = 6.895 kPa, 1 gallon per minute = 3.785 L/m.

a. Where the shower mixing valve manufacturer indicates a lower flow rating for the mixing valve, the lower value shall be applied.

Reason: This revised numbers in the table were approved for the 2015 IPC.

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Cost Impact: This code change proposal will not increase the cost of construction.

RP79-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P2903.1T-RP-HALL-PMGCAC

RP80 – 13

Table P2903.1

Proponent: Edward R. Osann, Natural Resources Defense Council, representing himself.
(eosann@nrdc.org)

Revise as follows:

TABLE P2903.1
REQUIRED CAPACITIES AT POINT OF OUTLET DISCHARGE

FIXTURE AT POINT OF OUTLET	FLOW RATE (gpm)	FLOW PRESSURE (psi)
Bathtub, pressure-balanced or thermostatic mixing valve	4	20
Bidet, thermostatic mixing	2	20
Dishwasher	2.75	8
Laundry tub	4	8
Lavatory	2 0.8	8
Shower, pressure-balancing or thermostatic mixing valve	3 2.5 ^a	20
Sillcock, hose bibb	5	8
Sink	2.5 1.75	8
Water closet, flushometer tank	1.6	20
Water closet, tank, close coupled	3	20
Water closet, tank, one-piece	6	20

For SI: 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. Where the minimum rated flow of the specific mixing valve to be used is lower than 2.5 gpm, the minimum rated flow of the mixing valve shall be the required capacity for this table.

Reason: TABLE P2903.1 “REQUIRED CAPACITIES AT POINT OF OUTLET DISCHARGE” requires plumbing distribution system design to achieve flow rates of *at least* 3 gpm for showers, 2.5 gpm for sinks, and 2 gpm for lavatories, all of which are excessive as minimum requirements. The *minimum* flow rate for a shower is above the allowable *maximum* flow rate for a showerhead as specified by Table P2903.2 of this code and by the nationwide standard that has been in effect for nearly 20 years. Similarly, the *minimum* flow rate for sinks other than laundry sinks is again set higher than the *maximum* flow rate allowable for a sink faucet under Table P2903.2. For building sites that are at the low end of the acceptable range of water pressure, these excessive minimum flow values tend to encourage the oversizing of pipes leading to fixture outlets, leaving a larger volume of cooled hot water to purge before use, and thus exacerbating the problem of the energy and water lost while waiting for actual hot water to arrive at the fixture. In some installations, these excessive minimum values may require water pressure booster systems that might otherwise be unnecessary.

Under this proposal, the minimum flow rates for lavatory, sink, and shower supply pipes would be adjusted downward. Minimum flow rates for pipes supplying showers would be set at 2.5 gpm, or such lower flow rate as would match the manufacturer’s minimum rated flow for the mixing valve to provide the level of thermal protection prescribed by the industry standard. The minimum flow rate for pipe supplying a sink other than a laundry sink would be set at 1.75 gpm, which is 80 percent of the value of the maximum flow rate allowed for a sink faucet by this code under Table P2903.2. The minimum flow rate for pipe supplying a lavatory would be set at 0.8 gpm, which is the same as the minimum flow rate prescribed for private lavatory faucets by the US EPA’s WaterSense specification (version 1.0, October 2007).

Note: Each change proposed here for Table P2903.1 has been accepted for Table 604.3 in the 2015 version of the International Plumbing Code.

Cost Impact: This proposal will have the effect of reducing the diameter of pipe that is allowed to serve lavatories and showers in some installations, and may also eliminate the need for water pressure booster systems in some applications. This code change proposal will not increase the cost of construction.

RP80-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2903.1T-RP-OSANN.DOC

RP81 – 13

Table P2903.2

Proponent: Edward R. Osann, Natural Resources Defense Council, representing himself (eosann@nrdc.org)

Revise as follows:

**TABLE P2903.2
MAXIMUM FLOW RATES AND CONSUMPTION
FOR PLUMBING FIXTURES AND FIXTURE FITTINGS^b**

PLUMBING FIXTURE OR FIXTURE FITTING	PLUMBING FIXTURE OR FIXTURE FITTING MAXIMUM FLOW RATE OR QUANTITY
Lavatory faucet	2.2 <u>1.5</u> gpm at 60 psi
Shower head ^a	2.5 <u>2.0</u> gpm at 80 psi
Sink faucet	2.2 gpm at 60 psi
Water closet	4.6 <u>1.3</u> gallons per flushing cycle ^c

For SI: 1 gallon = 3.785 L, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. A hand-held shower spray is also a shower head.

b. Consumption tolerances shall be determined from referenced standards.

c. The effective flush volume for a dual-flush water closet is defined as the composite, average flush volume of two reduced flushes and one full flush.

Reason: The maximum flow rates and water consumption levels in the current Table P2903.2 for water closets, shower heads, and lavatory faucets equate to nationwide standards enacted nearly 20 years ago. In December, 2010, the US Department of Energy determined that states were no longer preempted from adopting more stringent efficiency standards for these products. (*Federal Register*, Vol. 75, No. 245, December 22, 2010, p. 80289; this document is attached).

Today, fixtures and fittings that perform well at flush volumes and flow rates lower than the values in Table P2903.2 are widely available. Since 2006, the establishment of the WaterSense voluntary labeling program for water efficient products and services by the Environmental Protection Agency has provided a framework for the recognition of products that are substantially more efficient than minimum federal requirements while maintaining full functionality and customer satisfaction. WaterSense criteria were established for tank-type toilets (1.28 gpf) in 2007; lavatory faucets (1.5 gpm @ 60 psi) in 2007; and showerheads (2.0 gpm @ 80 psi) in 2010. Manufacturers have responded by bringing large numbers of models to market that meet or exceed WaterSense specifications. Based on the most recent reports by WaterSense partners, the following figures regarding the number of WaterSense labeled models available as of December 2012 indicate the widespread availability and commercial viability of plumbing products that are more efficient than the federal minimum standards shown in the current Table P2903.2:

- Tank-type water closets 1,475 models from 87 brands
- Lavatory faucets and accessories 5,207 models from 134 brands
- Showerheads 808 models from 45 brands

With the pace of introduction of new models that meet WaterSense specifications, it is reasonable to expect that these figures will be substantially larger by 2015.

Improving the water efficiency of water closets, shower heads, and lavatory faucets in new residential construction will save future building owners money and reduce the likelihood of municipal water and wastewater capacity constraints that can lead to moratoria on new connections.

NRDC estimates that nationwide adoption of the values in this proposal in all newly constructed single-family homes, effective 2016, can be expected to yield substantial additional savings of resources and dollars, as follows:

- 110 million gallons of water per day in 2030;
- 3,200 1,644 Gigawatt-hours of electricity per year in 2030;
- 118 million therms of natural gas per year in 2030; and
- Cumulative savings for consumers of \$632 million through 2030.

Cost Impact: While the costs of plumbing fixtures and fittings vary greatly due to style, trim, colors, and materials, the incremental cost of greater efficiency alone for products meeting the flush volumes and flow rates contained in this proposal is negligible. This code change proposal will not increase the cost of construction.

RP81-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2903.2T-RP-OSANN.DOC

RP82 – 13

P2903.3

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2903.3 Minimum pressure. ~~The static water pressure (as determined by the local water authority) at the building entrance for either public or private water service shall be not less than 40 psi (276 kPa).~~ Where the water pressure supplied by the public water main or an individual water supply system is insufficient to provide for the minimum pressures and quantities for the plumbing fixtures in the building, the pressure shall be increased by means of an elevated water tank, a hydro-pneumatic pressure booster system or a water pressure booster pump.

Reason: The IPC doesn't require a minimum static pressure at the building entrance so why should the IRC? We believe this requirement came from long ago and before the code required minimum pressures and flow rates at fixtures. It does not matter what the pressure is at the building entrance just as long as the pressures at the fixtures are satisfied. If the plumber has to install a booster pump, an elevated water tank, or a hydro-pneumatic pressure booster system to meet the demands of the building, then the code will be satisfied. The new language basically comes from the IPC.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 46 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP82-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.3-RP-HALL-PMGCAC

RP83 – 13

P2903.4, P2903.4.1, P2903.4.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2903.4 Thermal expansion control. ~~A means for controlling increased pressure caused by thermal expansion shall be installed where required in accordance with Sections P2903.4.1 and P2903.4.2.~~ Where a storage water heater is supplied with cold water that passes through a check valve, pressure reducing valve or backflow preventer, a thermal expansion tank shall be connected to the water heater cold water supply pipe at a point that is downstream of all check valves, pressure reducing valves and backflow preventers. Thermal expansion tanks shall be sized in accordance with the tank manufacturer's instructions and shall be sized such that the pressure in the water distribution system shall not exceed that required by Section P2903.3.1.

~~**P2903.4.1 Pressure-reducing valve.** For water service system sizes up to and including 2 inches (51 mm), a device for controlling pressure shall be installed where, because of thermal expansion, the pressure on the downstream side of a pressure-reducing valve exceeds the pressure-reducing valve setting.~~

~~**P2903.4.2 Backflow prevention device or check valve.** Where a backflow prevention device, check valve or other device is installed on a water supply system using storage water heating equipment such that thermal expansion causes an increase in pressure, a device for controlling pressure shall be installed.~~

Reason: Any location there is a pressure reducing device, a check valve or a backflow preventer in the cold water piping to a storage-type water heater, a means to compensate for thermal expansion must be installed. This is typically accomplished with an expansion tank. Other methods for relieving thermal expansion pressure, such additional relief valves, waste water for the life of the system. Thermal expansion tanks are required by most storage water heater manufacturers to protect the water heater. Expansion tank manufacturers typically size their tanks so that the water distribution system pressure will remain just shy of the pressure required to open a 150 psi water heater relief valve. This will allow the system pressure to exceed the maximum pressure intended by Section P2903.3.1, which is unacceptable. A similar proposal for the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 47 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will increase the cost of construction.

RP83-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.4-RP-HALL-PMGCAC

RP84 – 13

P2903.7

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2903.7 Size of water-service mains, branch mains and risers. The size of the water service pipe shall be not less than 3/4 inch (19 mm) diameter. The size of water service mains, branch mains and risers shall be determined according to water supply demand [gpm (L/m)], available water pressure [psi (kPa)] and friction loss caused by the water meter and *developed length* of pipe [feet (m)], including *equivalent length* of fittings. The sizes of piping in of each a water distribution system shall be determined according to by design methods conforming to ~~acceptable~~ accepted engineering practice, ~~such as those methods in Appendix P and shall~~ Such methods shall be approved. by the code official.

Reason: The code should never direct or refer the reader to an appendix. What is “acceptable” ? What is intended is “accepted”. See definition for *accepted engineering practice* in the IPC. The material in the appendix is not normally adopted and in many cases, does not exist in the adopted code of a jurisdiction. The reference needs to be deleted. “Approved by the building official” is redundant. *Approved* already means approval by the building official.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 48 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP84-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.7-RP-HALL-PMGCAC

RP85 – 13

P2903.8

Proponent: Gary Klein, Affiliated International Management, LLC, representing self,
gary@aim4sustainability.com

Revise as follows:

P2903.8 Gridded and parallel water distribution systems. Hot water and cold water manifolds installed with ~~gridded or parallel-connected individual distribution lines~~ and cold water manifolds installed with gridded distribution lines to each fixture or fixture fittings shall be designed in accordance with Sections P2903.8.1 through P2903.8.6. Gridded systems for hot water distribution systems shall be prohibited.

Reason: A gridded distribution system has two or more water paths to each fixture supply pipe.

If a gridded system were installed on the hot water distribution piping, the hot water would take multiple paths to the fixture being used, only one of which would be the most direct route. This would serve to slow down the flow of hot water and exacerbate already long delivery times and dramatically increase the heat loss and energy wasted in the hot water delivery system.

Cost Impact: The code change proposal will not increase the cost of construction.

RP85-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2903.8-RP-KLEIN

RP86 – 13

P2903.8.2

Proponent: Gary Klein, Affiliated International Management, LLC, representing self,
gary@aim4sustainability.com

Revise as follows:

P2903.8.2 Minimum Size. When the developed length of the distribution line is ~~60 feet (18 288 mm)~~ 50 feet (15 240 mm) or less, and the available pressure at the meter is not less than 40 pounds per square inch (276 kPa), the size of individual distribution lines shall be not less than 3/8 inch (10 mm) diameter. Certain fixtures such as one-piece water closets and whirlpool bathtubs shall require a larger size where specified by the manufacturer. If a water heater is fed from the end of a cold water manifold, the manifold shall be one size larger than the water heater feed. The maximum developed length between the source of heated water and the plumbing fixtures and plumbing appliances shall be 50 feet (1270 mm).

Reason: The piping cannot tell what occupancy it is in so it makes sense to limit the developed length for heated water in the IRC to 50 feet. This will correlate the various I-codes that cover heated water piping.

Enabling smaller diameter tubing is important to energy efficiency because it reduces the volume in the fixture supply, which reduces the temperature drop during the use periods and the energy that is lost when the water in the piping cools down. It also has the benefit of reducing the time it takes for hot water to arrive.

As plumbing fixture and appliance flow rates get lower, as long as the maximum flow rate is selected properly, the physics clearly indicates that there will be no pressure loss or velocity problems if smaller diameter tubing is allowed. Calculations were performed using the same formula used by plumbing engineers to design hot water distribution systems to determine the combinations of flow rates and diameters shown in the table. In order to ensure that a piping system will work properly for heated water with a limit of 50 feet of developed length, the maximum developed length was capped at 50 feet for the analysis done to support this code change. The pressure drop was limited to 5 psi and the velocity was limited to 4 feet per second. PEX, CPVC and copper Types K, L, and M were evaluated. In order to make it simple to inspect, the maximum flow rate for each nominal diameter was chosen so that the worst performing material still met the criteria.

Cost Impact: The code change proposal will not increase the cost of construction.

RP86-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2903.8.2-RP-KLEIN

RP87 – 13

P2903.8.3

Proponent: Gary Klein, Affiliated International Management, LLC, representing self,
gary@aim4sustainability.com

Revise as follows:

P2903.8.3 Orientation. The installation orientation of manifolds shall not be limited ~~be permitted to be installed in a horizontal or and~~ vertical orientations.

Reason: While horizontal and vertical are the most common orientations, the current language seems to prohibit installation in any other orientations, for example on a diagonal. If diagonal will give the best performance or reduce the cost of installation, it should be allowed. The sentence was reworded to eliminate the non-mandatory language of “shall be permitted”.

If the committee prefers, it would be acceptable to delete the entire section.

Cost Impact: The code change proposal will not increase the cost of construction.

RP87-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2903.8.3-RP-KLEIN

RP88 – 13

P2903.9.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2903.9.1 Service Main water valves. Each *dwelling unit* shall be provided with an accessible, full-open main water shutoff valve near within 18 inches (457 mm) the entrance of where the water service pipe enters the structure at a foundation wall or where the water service extends above the floor of a concrete slab-on-grade. The valve shall be of a full open type having nominal restriction to flow, with provision for drainage such as a bleed orifice or installation of a separate drain valve. Additionally, Where the supply of water for the structure is from a public water main, a valve shall be provided between the end of the utility-owned water supply pipe and the beginning of the water service pipe. shall be valved at the curb or lot line in accordance with local requirements.

Reason: The terms “near” and “nominal restriction” are vague and unenforceable. The term “bleed orifice” and “valved” are slang terminology. The word “additionally” is unnecessary.

The industry seems to understand what constitutes a “full open” valve. The dimension of 18 inches for the location of the valve is offered to the Development Committee as a starting point for specifying the proximity of the valve to the entrance into the structure. The Committee can easily change this dimension if it chooses. The point in specifying a distance is to provide better guidance and more leeway than simply stating “at” the entrance.

A “bleed orifice” on a main water shut off valve is used so rarely that if it did get used many years after installation, the orifice is frequently useless because it is clogged and corroded. It is wishful thinking to believe that a modern water distribution system can be completely drained through a “bleed orifice” (or a drain valve) at the main water valve. Many jurisdictions have not enforced this feature for many years. The IPC contains no such requirement.

The last line is revised to remove slang terminology (“valved”).

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Cost impact: The code change proposal will not increase the cost of construction.

RP88-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.9.1-RP-HALL-PMGCAC

RP89 – 13

P2903.9.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2903.9.2 Water heater valve. A *readily accessible* full open valve shall be installed in the cold-water supply pipe to each water heater. ~~at or near~~ Such valve shall be within 18 inches (457 mm) of the water heater.

Reason: The term “near” is vague and unenforceable. The term “at” is too restrictive. The dimension of 18 inches for the location of the valve is offered to the Development Committee as a starting point for specifying the proximity of the valve to the water heater. The Committee can easily change this dimension if it chooses. The point in specifying a distance is to provide better guidance and more leeway than simply stating “at” or “near” the entrance.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 50 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP89-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.9.2-RP-HALL-PMGCAC

RP90 – 13

P2903.9.3

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2903.9.3 Fixture valves and access. ~~An individual~~ Shutoff valves shall be required on ~~the~~ each fixture supply pipe to each plumbing appliance and to each plumbing fixture other than bathtubs and showers. Valves serving individual plumbing fixtures, plumbing appliances, risers and branches shall be ~~provided~~ with accessible.

Reason: The first sentence was moved to be the last sentence as it makes more sense in the context of the subjects. Access is not a defined term in the IRC but *accessible* is defined (and does not mean "suitable for persons having disabilities"). This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 51 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP90-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.9.3-RP-HALL-PMGCAC

RP91 – 13

P2903.9.4

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2903.9.4 Valve requirements. Valves shall be of an approved type and compatible with the type of piping material installed in the system. ~~Ball valves, gate valves, butterfly valves, globe valves and plug.~~ Valves intended to supply drinking water shall meet the requirements of NSF 61.

Reason: This revised language was approved for the 2015 IPC.. NSF/ANSI Standard 61 Drinking Water System Components-Health Effects addresses crucial aspects of drinking water system components: whether contaminants that leach or migrate from the product/material into the drinking water are above acceptable levels in finished waters. Requiring NSF 61 will help protect the drinking water supply from the leaching of contaminants. The IPC and IRC already requires conformance to NSF 61 for pipes, fittings, faucets and valves intended to supply drinking water. (Sections 424.1, 605.3, 605.4, 605.5, 605.7 of IPC).

The current list of valves in Section P2903.9.4 which require NSF-61 was a concession during previous code change cycles to allow manufacturers time to bring product lines into compliance with this standard. The requirement should apply to all valves intended to supply drinking water. The Uniform Plumbing Code currently requires all valves to conform to NSF 61.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X16 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP91-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.9.4#1-RP-HALL-PMGCAC

RP92 – 13

P2903.9.4, Table P2903.9.4 (New), Chapter 44

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2903.9.4 Valves. Valves shall be of an approved type and compatible with the type of piping material installed in the system. Valves shall conform to one of the standards listed in Table 605.7 or shall be approved. Ball valves, gate valves, globe valves and plug valves intended to supply drinking water shall meet the requirements of NSF 61.

TABLE P2903.9.4
VALVES

<u>MATERIAL</u>	<u>STANDARD</u>
<u>Chlorinated polyvinyl chloride (CPVC) plastic</u>	<u>ASME A112.4.14, ASME A112.18.1/CSA B125.1, ASTM F 1970, CSA B125.3</u>
<u>Copper or copper alloy</u>	<u>ASME A112.4.14, ASME A112.18.1/CSA B125.1, ASME B16.34, CSA B125.3, MSS SP-67, MSS SP-80, MSS SP-10</u>
<u>Gray and ductile Iron</u>	<u>ASTM A126, AWWA C500, AWWA C504, AWWA C507, MSS SP-67, MSS SP-70, MSS SP-71, MSS SP-72, MSS SP-78</u>
<u>Cross-linked polyethylene (PEX) plastic</u>	<u>ASME A112.4.14, ASME A112.18.1, CSA B125.3, NSF 359</u>
<u>Polypropylene (PP) plastic</u>	<u>ASME A112.4.14, ASTM F 2389,</u>
<u>Polyvinyl chloride (PVC) plastic</u>	<u>ASME A112.4.14, ASTM F 1970</u>

Add new standards to Chapter 44 as follows:

ASME

A112.4.14 – 2004 Manually Operated, Quarter-Turn Shutoff Valves for Use in Plumbing Systems
B16.34 – 2009 Valves Flanged, Threaded and Welding End

ASTM

A126-04(2009) Gray Iron Castings for Valves, Flanges, and Pipe Fittings
F1970 - 05 Special Engineered Fittings, Appurtenances or Valves for use in Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Systems

AWWA

C500-09 AWWA Standard for Metal-Seated Gate Valves for Water Supply Service
C504-10 AWWA Standard for Rubber-Seated Butterfly Valves
C507-11 AWWA Standard for Ball Valves, 6 In. Through 60 In.

MSS

Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.
127 Park Street, N.E.
Vienna, VA 22180

SP-42-2009 Corrosion Resistant Gate, Globe, Angle and Check Valves with Flanged and Butt Weld Ends (Classes 150, 300 & 600)

SP-67-2011 Butterfly Valves

<u>SP-70-2011</u>	<u>Gray Iron Gate Valves, Flanged and Threaded Ends</u>
<u>SP-71-2011</u>	<u>Grey Iron Swing Check Valves, Flanged and Threaded Ends</u>
<u>SP-72-2010</u>	<u>Ball Valves with Flanged or Butt-Welding Ends for General Service</u>
<u>SP-78-2011</u>	<u>Cast Iron Plug Valves, Flanged and Threaded Ends</u>
<u>SP-80-2008</u>	<u>Bronze Gate, Globe, Angle and Check Valves</u>
<u>SP-110-2010</u>	<u>Ball Valves, Threaded, Socket Welded, Solder Joint, Grooved and Flared Ends</u>

NSF

<u>359-2011</u>	<u>Valves for Crosslinked Polyethylene (PEX) Water Distribution Tubing Systems</u>
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Reason: This revised language was approved for the 2015 IPC. Currently the code requires valves to be approved but does not contain requirements for which performance standards are acceptable for use. While a number of valve standards have been created over the years, they have not been included in the code. The intent of this code change is to create a table to identify appropriate standards for valves. This list is not all inclusive of all material types and in some cases there are not national standards for every type of valve and material used. For this reason, the language "shall be approved or conform to . . ."

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X17 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction..

Analysis: A review of the standards proposed for inclusion in the code, ASME A112.4.14-2004 , ASME B16.34-2009 , ASTM A126-04(2009), ASTM F1970-05, AWWA C500-09, AWWA C504-10, AWWA C507-11, MSS SP-42-2009, MSS SP-67-2011, MSS SP-70-2011, MSS SP-71-2011, MSS SP-72-2010, MSS SP-78-2011, MSS SP-80-2008, MSS SP-100-2010 and NSF 359-2011 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1, 2013.

RP92-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.9.4#2-RP-HALL-PMGCAC

RP93 – 13

P2903.9.5

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2903.9.5 Outlets and stop-and-waste valves prohibited below grade. Potable water outlets and ~~combination~~ stop-and-waste valves shall not be installed underground or below grade. Freezeproof yard hydrants that drain the riser into the ground ~~are~~ shall be considered to be stop-and-waste valves.

Exception: Installation of freezeproof yard hydrants that drain the riser into the ground shall be permitted provided that ~~if~~ the potable water supply to such hydrants is protected upstream of the hydrants in accordance with Section P2902.5.6 and the hydrants are permanently identified as nonpotable outlets by approved signage that reads as having the following words: ~~that reads as having the followings words:~~ “CAUTION, NONPOTABLE WATER. DO NOT DRINK.”

Reason: The term “combination” is not needed and confuses the intent of the section. The plumbing industry knows what a stop and waste valve is. Use of the phrase “shall be permitted” in the exception is frequently not acceptable but in this situation, it does work because specific conditions are required for such hydrant use. The term “if” needs to be changed to “provided that” in order to format the remainder of the statement as the conditions of installation. The last line is revised to because signs don’t “read”, they only have words printed on them.

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Cost impact: The code change proposal will increase the cost of construction.

RP93-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.9.5-RP-HALL-PMGCAC

RP94 – 13

P2903.10

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Delete and substitute as follows:

~~P2903.10 Hose bibb shut off valve.~~ ~~Hose bibbs subject to freezing, including the “frost-proof” type, shall be equipped with an accessible stop-and-waste-type valve inside the building so that they can be controlled and drained during cold periods.~~

~~Exception:~~ ~~Frostproof hose bibbs installed such that the stem extends through the building insulation into an open heated or semiconditioned space need not be separately valved (see Figure P2903.10).~~

P2903.10 Outdoor hose connection faucets. Hose-connection faucets such as hose bibbs, sillcocks and lawn faucets that are located on the building and exposed to the outdoors shall have a stop-and-waste valve installed on the fixture supply pipe to the faucet. The stop-and-waste valve shall be accessible and shall be located in an area of the building where the valve is not subject to freezing.

Exceptions:

1. The stop-and-waste valve shall not be required where the winter design temperature indicated in Table R301.2.(1) is greater than 32°F (0° C).
2. The stop-and-waste valve shall not be required where the valve seat of the hose connection faucet is located in an area of the building that is not subject to freezing temperatures (see Figure P2903.10).

Reason: The hose bibb is not “equipped” with a stop-and-waste valve; the water supply pipe to the hose bibb is to have the stop and waste valve. Are hose bibbs really “controlled”? “Valved” is slang terminology. What is a “semiconditioned” space? The revised text eliminates improper language and makes the intent clear.

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Cost impact: The code change proposal will increase the cost of construction.

RP94-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2903.10-RP-HALL-PMGCAC

RP95 – 13

P2903.11(NEW), P2903.11.1 (New), Table P2903.11.1 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Add new text as follows:

P2903.11 Hot water supply to fixtures. The piping from the source of hot water to the end of the fixture supply pipe to the fixture shall contain not more than 75 fluid ounces of water. Recirculating system piping and heat-traced piping shall be considered to be sources of hot water.

P2903.11.1 Pipe volumes. Table P2903.11.1 shall be used to determine the water volume in piping.

TABLE P2903.11.1
PIPING VOLUME

<u>Size</u> <u>Nominal(Inches)</u>	<u>Copper</u> <u>Type M</u>	<u>Copper</u> <u>Type L</u>	<u>Copper</u> <u>Type K</u>	<u>CPVC</u> <u>CTS</u> <u>SDR</u> <u>11</u>	<u>CPVC</u> <u>SCH 40</u>	<u>CPVC</u> <u>SCH 80</u>	<u>PE-RT</u> <u>SDR 9</u>	<u>Composite</u> <u>ASTM F</u> <u>1281</u>	<u>PEX CTS</u> <u>SDR 9</u>
<u>FLUID OUNCES OF WATER PER FOOT OF TUBE</u>									
<u>3/8"</u>	<u>1.06</u>	<u>0.97</u>	<u>0.84</u>	<u>N/A</u>	<u>1.17</u>	<u>N/A</u>	<u>0.64</u>	<u>0.63</u>	<u>0.64</u>
<u>1/2"</u>	<u>1.69</u>	<u>1.55</u>	<u>1.45</u>	<u>1.25</u>	<u>1.89</u>	<u>1.46</u>	<u>1.18</u>	<u>1.31</u>	<u>1.18</u>
<u>3/4"</u>	<u>3.43</u>	<u>3.22</u>	<u>2.90</u>	<u>2.67</u>	<u>3.38</u>	<u>2.74</u>	<u>2.35</u>	<u>3.39</u>	<u>2.35</u>
<u>1"</u>	<u>5.81</u>	<u>5.49</u>	<u>5.17</u>	<u>4.43</u>	<u>5.53</u>	<u>4.57</u>	<u>3.91</u>	<u>5.56</u>	<u>3.91</u>
<u>1 1/4</u>	<u>8.70</u>	<u>8.36</u>	<u>8.09</u>	<u>6.61</u>	<u>9.66</u>	<u>8.24</u>	<u>5.81</u>	<u>8.49</u>	<u>5.81</u>
<u>1 1/2</u>	<u>12.18</u>	<u>11.83</u>	<u>11.45</u>	<u>9.22</u>	<u>13.20</u>	<u>11.38</u>	<u>8.09</u>	<u>13.88</u>	<u>8.09</u>
<u>2"</u>	<u>21.08</u>	<u>20.58</u>	<u>20.04</u>	<u>15.79</u>	<u>21.88</u>	<u>19.11</u>	<u>13.86</u>	<u>21.48</u>	<u>13.86</u>

Reason: The IgCC, however, limits hot water line length based on the volume in the pipe, therefore the maximum length is different for different sizes of pipe. The IRC should be revised to correspond with the IgCC.

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Cost impact: The code change proposal will increase the cost of construction.

R95-13

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

P2903.11 (NEW)-RP-HALL-PMGCAC

RP96 – 13

P2903.11 (New), Table P2903.11 (New)

Proponent: Gary Klein, Affiliated International Management, LLC, representing self,
gary@aim4sustainability.com

Add new text as follows:

P2903.11 Fixture supply piping size. The size of fixture supply piping to fixture fittings and appliances shall be in accordance with Table P2903.11. The maximum developed length of such fixture supply piping shall be 50 feet (1270 mm). Both the heated water fixture supply piping and the cold water fixture supply piping to a fixture or appliance shall be the same nominal size. For flow rates not shown in Table P2903.11, the maximum developed length of such piping and tubing between the source of heated water and fixture fittings or appliances shall be 50 feet (1270 mm).

TABLE P2903.11
FIXTURE SUPPLY PIPING SIZE

<u>FLOW RATE</u> <u>(gpm)</u>	<u>NOMINAL PIPING OR TUBING SIZE</u> <u>(inches)</u>
≤ 0.5	$\frac{1}{4}$
>0.5 to ≤ 1.0	$\frac{5}{16}$
>1.0 to ≤ 1.5	$\frac{3}{8}$

For SI: 1 gallon per minute = 3.785 L/m, 1 inch = 25.4 mm

Reason: The purpose of this code change is to ensure that the minimum diameter of the tubing on a fixture supply is safely (low pressure drop and low velocity) matched to the flow rate of the fixture or appliance to which it is connected.

Enabling smaller diameter tubing is important to energy efficiency because it reduces the volume in the fixture supply, which reduces the temperature drop during the use periods and the energy that is lost when the water in the piping cools down. It also has the benefit of reducing the time it takes for hot water to arrive.

As plumbing fixture and appliance flow rates get lower, as long as the maximum flow rate is selected properly, the physics clearly indicates that there will be no pressure loss or velocity problems if smaller diameter tubing is allowed. Calculations were performed using the same formula used by plumbing engineers to design hot water distribution systems to determine the combinations of flow rates and diameters shown in the table. In order to ensure that a piping system will work properly for heated water with a limit of 50 feet of developed length, the maximum developed length was capped at 50 feet for the analysis done to support this code change. The pressure drop was limited to 5 psi and the velocity was limited to 4 feet per second. PEX, CPVC and copper Types K, L, and M were evaluated. In order to make it simple to inspect, the maximum flow rate for each nominal diameter was chosen so that the worst performing material still met the criteria.

Cost impact: The code change proposal will not increase the cost of construction.

RP96-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P2903.11 (NEW)-RP-Klein

RP97 – 13

P2904 (New), P2904.1 (New), Table P2904.1 (New)

Proponent: Edward R. Osann, Natural Resources Defense Council, representing himself.
(eosann@nrdc.org)

Add new text as follows:

SECTION P2904 **HOT WATER DISTRIBUTION SYSTEMS**

P2904.1 Hot water pipe volume. The volume in the piping between the end of a *hot water fixture supply* and the piping connection to a *hot water source* shall not exceed 0.5 gallon (1.9 liters). The hot water source shall be a recirculating system pipe, a heat-traced pipe or a water heater. The volume in the piping shall be calculated using the values in Table P2904.1.

TABLE P2904.1
INTERNAL VOLUME OF VARIOUS WATER DISTRIBUTION PIPING

<u>LIQUID OUNCES OF WATER PER FOOT LENGTH OF HOT WATER TUBING</u>								
<u>Nominal Size (Inches)</u>	<u>Copper Type M</u>	<u>Copper Type L</u>	<u>Copper Type K</u>	<u>CPVC CTS SDR 11</u>	<u>CPVC SCH 40</u>	<u>PEX-AL-PEX ASTM F 1281</u>	<u>PE- AL-PE</u>	<u>PEX CTS SDR 9</u>
<u>3/8</u>	<u>1.06</u>	<u>0.97</u>	<u>0.84</u>	<u>N/A</u>	<u>1.17</u>	<u>0.63</u>	<u>0.63</u>	<u>0.64</u>
<u>1/2</u>	<u>1.69</u>	<u>1.55</u>	<u>1.45</u>	<u>1.25</u>	<u>1.89</u>	<u>1.31</u>	<u>1.31</u>	<u>1.18</u>
<u>5/8</u>	<u>2.49</u>	<u>2.31</u>	<u>2.22</u>	<u>N/A</u>	<u>N/A</u>	<u>2.12</u>	<u>2.12</u>	<u>1.72</u>
<u>3/4</u>	<u>3.43</u>	<u>3.22</u>	<u>2.90</u>	<u>2.67</u>	<u>3.38</u>	<u>3.39</u>	<u>3.39</u>	<u>2.35</u>
<u>1</u>	<u>5.81</u>	<u>5.49</u>	<u>5.17</u>	<u>4.43</u>	<u>5.53</u>	<u>5.56</u>	<u>5.56</u>	<u>3.91</u>
<u>1 1/4</u>	<u>8.70</u>	<u>8.36</u>	<u>8.09</u>	<u>6.61</u>	<u>9.66</u>	<u>8.49</u>	<u>8.49</u>	<u>5.81</u>
<u>1 1/2</u>	<u>12.18</u>	<u>11.83</u>	<u>11.45</u>	<u>9.22</u>	<u>13.20</u>	<u>13.88</u>	<u>13.88</u>	<u>8.09</u>
<u>2</u>	<u>21.08</u>	<u>20.58</u>	<u>20.04</u>	<u>15.79</u>	<u>21.88</u>	<u>21.48</u>	<u>21.48</u>	<u>13.86</u>

For SI: 1 inch = 25.4 mm, 1 liquid ounce = 0.0296 liters, 1.0 ounce = 0.00781 gallons,
0.5 gallon (1.9 liters) = 64.0 liquid ounces

Reason: Cold or tepid water in the initial draw from a hot water outlet is often unusable for its intended purpose, and is frequently purged, resulting in a waste of water, energy, and time for building occupants. Pipe insulation significantly reduces heat loss and helps to ensure that hot water gets to the user sooner. However, a complementary strategy is to reduce the volume of water contained in the hot water distribution system in the first place.

This proposal, which is comparable to the criteria adopted by the US EPA WaterSense for New Homes specification in 2009, establishes a maximum volume of 0.5 gallons for water in a hot water supply line, based on internal volumes specific to the piping material. By allowing the volume limitation to be computed from runs from recirculation loops, this provision allows designers additional flexibility in larger homes while effectively limiting the amount of cooled down water to be purged to ½ gallon per draw.

Cost Impact: This code change proposal is a design requirement that will not increase the cost of construction.

RP97-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P2904 (NEW) #1-RP-OSANN.DOC

RP98 – 13

P2904 (New), P2904.1 (New)

Proponent: Edward R. Osann, Natural Resources Defense Council, representing himself.
(eosann@nrdc.org)

Add new text as follows:

P2904

HOT WATER DISTRIBUTION SYSTEMS

2904.1 Hot or tempered water supply to fixtures. The developed length of hot water piping and tempered water piping from the end of a hot or tempered water *fixture supply* to the piping connection to a hot or tempered water source shall not exceed 50 feet (15 240 mm). The hot or tempered water source shall be a recirculating system pipe, a heat-traced pipe or a water heater.

Reason: This proposal sets a maximum length of 50 feet for hot (or tempered) water supply piping running from a heat source to any fixture. The language the first sentence is identical to Section 607.2 of the International Plumbing Code, which typically applies to much larger buildings than one- and two-family homes. Excessively long hot water piping results in excessive amounts of cooled water that must be purged before use, especially for showers and wash basins. For example, 70 feet of ¾ inch pipe contains nearly 2 gallons of water. At an average shower flow rate of 2.2 gallons per minute, a shower served by such a long pipe run would be running for over 50 seconds just to purge cold water from the hot water supply line, plus the additional time needed to warm the pipe between the heat source and the shower – all water, energy, and time wasted. A 50 foot limit will encourage money-saving choices about the placement of water heaters and hot water outlets in the design of large homes. This provision makes sense in the IPC and will make sense in the IRC as well.

The last line of the section simply ensures that when either recirculating systems or heat-traced piping are present, they are to be considered sources of hot or tempered water.

Cost Impact: This code change proposal is a design requirement that will not increase the cost of construction.

RP98-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2904 (NEW) #2-RP-OSANN.DOC

RP99 – 13

P2904.1

Proponent: Barry Pines, CPO, representing the Code Study & Development Group of SE Michigan

Revise as follows:

P2904.1 General. The design and installation of residential fire sprinkler systems shall be in accordance with NFPA 13D or Section P2904, which shall be considered equivalent to NFPA 13D. Partial residential sprinkler systems shall be permitted to be installed only in buildings not required to be equipped with a residential sprinkler system. Section P2904 shall apply to ~~stand-alone and~~ multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall provide domestic water to both fire sprinklers and plumbing fixtures. ~~A stand-alone sprinkler system shall be separate and independent from the water distribution system. A backflow preventer shall not be required to separate a stand-alone sprinkler system from the water distribution system.~~

Reason: This section was originally meant for a multipurpose system. The insertion of "Stand alone" is creating major conflicts in the industry in terms of who can install these systems. They were originally meant to be installed by Plumbers as a combined system. The stand alone system is meant to be installed by Fire suppression contractors and this is causing a conflict with the Jurisdictions and they are not adopting this section of the code. Also the fact that it does not require a backflow preventer is causing a problem due to the fact that with a standalone system you have a stagnant piping system that will breed bacteria and contaminate the potable water.

Cost Impact: This will not create any cost Impact.

RP99-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2904.1-RP-PINES.DOC

RP100 – 13

P2904.1.1

Proponent: Wesley Walters, Clark County Nevada Development Services, representing self

Revise as follows:

P2904.1.1 Required sprinkler locations. Sprinklers shall be installed to protect all areas of a dwelling unit.

Exceptions:

1. Attics, crawl spaces and normally unoccupied concealed spaces that do not contain fuel-fired appliances do not require sprinklers. In attics, crawl spaces and normally unoccupied concealed spaces that contain fuel-fired equipment, a sprinkler shall be installed above the equipment; however, sprinklers shall not be required in the remainder of the space.
2. Clothes closets, linen closets and pantries not exceeding 24 square feet (2.2 m²) in area, with the smallest dimension not greater than 3 feet (915 mm) and having wall and ceiling surfaces of gypsum board.
3. Bathrooms not more than ~~55 (5.1 m²)~~ 40 square feet (3.7 m²) in area.
4. Garages; carports; exterior porches; unheated entry areas, such as mud rooms, that are adjacent to an exterior door; and similar areas.

Reason: NFPA 13D handbook lists bathroom fires make up 3 % of all fires. With all the electrical appliances used within bathrooms the potential for fire damage is great. The average bathroom is 40-45 square feet in area. This is exception is too large for not providing protection where it is needed.

Cost Impact: The code change proposal will increase the cost of construction.

RP100-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2904.1.1-RP-WALTERS.DOC

RP101 – 13

P2904.3

Proponent: Jeffrey M. Hugo, CBO, National Fire Sprinkler Association, representing the National Fire Sprinkler Association (hugo@nfsa.org)

Revise as follows:

P2904.3 Sprinkler piping system. Sprinkler piping shall be supported in accordance with the ~~requirements for cold water distribution piping manufacturer's and sprinkler manufacturer's installation~~ instructions. Sprinkler piping shall comply with all requirements for cold water distribution piping. For multipurpose piping systems, the sprinkler piping shall connect to and be a part of the cold water distribution piping system.

Reason: Section P2904.3 and the pre-concealment inspection requirements of Section P2904.8.1 conflict. Section P2904.3 states that the piping shall be supported like all other cold water piping (Table P2605.1) but Section P2904.8.1 states that piping supports shall be inspected according to the manufacturers installation instructions. Some piping manufacturers, such as CPVC, have different spacing requirements. Sprinkler piping support can also have different spacing for the hangers for in-line drop tee's and end-line drop elbows.

Designers, installers and code officials should be using all the same documents for fire sprinkler installations.

Cost Impact: Will not increase the cost of construction.

RP101-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2904.3-RP-HUGO.DOC

RP102 – 13

P2905.2, P2905.2.1 (New), Chapter 44

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org); Jeremy Brown, NSF International, (brown@nsf.org)

Revise as follows:

P2905.2 Lead content. The lead content in pipe and fittings used in the water supply system shall be ~~have lead content of not greater than 8 percent lead.~~

Add new text as follows:

P2905.2.1 Lead content of drinking water pipe and fittings. Pipe, pipe fittings, joints, valves, faucets, and fixture fittings utilized to supply water for drinking or cooking purposes shall comply with NSF 372 and shall have a weighted average lead content of 0.25 percent lead or less.

Add new standard to Chapter 14 as follows:

NSF

372-2010 Drinking Water System Components - Lead Content

Reason: Section P2505.2 is reworded to state the 8 percent limitation of lead content. The existing language *requires* lead content to be not greater than 8 percent. A subtle change but more correct as revised.

The new Section P2905.2.1 coordinates the IRC with Federal legislation limiting the amount of lead in pipe, pipe fittings, joints, valves, faucets, and fixture fittings that can be used to supply *drinking water*. Section P2905.2 is still necessary since remaining components in a potable water distribution system must still be limited to 8 percent lead. The Federal legislation only applies to drinking water components. There are other components that have a greater quantity of lead than 0.25 percent and they are permitted to by Federal law. This is identical language that was approved for the 2015 IPC.

NSF 372 is the new standard used to evaluate the weighted average of lead in drinking water components. This standard allows manufacturers to perform a mathematical analysis of their product to determine the weighted average of lead. NSF 372 is consistent with the Federal legislation. This standard was approved for addition to the 2015 IPC.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 57 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

RP102-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2905.2-RP-HALL-PMGCAC

RP103 – 13

P2905.4.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

~~P2905.4.1~~ P2905.3.7 Dual check-valve-type backflow preventer. ~~Where a Dual check-valve backflow preventer is installed on the water supply system, it shall comply~~ conform with ASSE 1024 or CSA B64.6.

Reason: This same language was Approved as Modified for addition to 2015 IPC. The term “valve” is not in the title of the ASSE standard. The section is being moved to the correct location with all other backflow preventers for continuity (and similarity to how the IPC groups all of the backflow preventers). The IRC does not require a backflow preventer on water supply systems so this section should not be within Section P2905.4.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 2X0 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP103-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2905.4.1-RP-HALL-PMGCAC

RP104 – 13

P2905.4.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org); Richard Grace, Fairfax County, representing Virginia Plumbing and Mechanical Inspectors Association and Virginia Building and Code Officials Association (Richard.Grace@fairfaxcounty.gov)

Delete and substitute as follows:

P2905.4.2 Water service installation. ~~Trenching, pipe installation and backfilling shall be in accordance with Section P2604. Water service pipe is permitted to be located in the same trench with a *building sewer* provided such sewer is constructed of materials listed for underground use within a building in Section P3002.1. If the *building sewer* is not constructed of materials listed in Section P3002.1, the water service pipe shall be separated from the *building sewer* by not less than 5 feet (1524 mm), measured horizontally, of undisturbed or compacted earth or placed on a solid ledge not less than 12 inches (305 mm) above and to one side of the highest point in the sewer line.~~

Exception: ~~The required separation distance shall not apply where a water service pipe crosses a sewer pipe, provided that the water service pipe is sleeved not less than 5 feet (1524 mm), horizontally from the sewer pipe centerline, on both sides of the crossing with pipe materials listed in Tables P2905.4, P3002.1(1), P3002.1(2) or P3002.2.~~

P2905.4.2 Separation of water service and building sewer. Trenching, pipe installation and backfilling shall be in accordance with Section P2604. Where water service piping is located in the same trench with the building sewer, such sewer shall be constructed of materials listed in Table P3002.1(2). Where the building sewer piping is not constructed of materials listed in Table P3002.1(2), the water service pipe and the building sewer shall be horizontally separated by not less than 5 feet (1524 mm) of undisturbed or compacted earth. The required separation distance shall not apply where a water service pipe crosses a sewer pipe, provided the water service is sleeved to a point not less than 5 feet (1524 mm) horizontally from the sewer pipe centerline on both sides of such crossing. The sleeve shall be of pipe materials listed in Table P2905.4, P3002.1(2) or P3002.2. The required separation distance shall not apply where the bottom of the water service pipe located within 5 feet (1524 mm) of the sewer is not less than 12 inches (305 mm) above the highest point of the top of the building sewer.

Reason:

[GRACE] This proposal is consistent with IPC change that was approved and was to further update the IPC with language that was in the IRC. When this new section was written for the IPC it was found that there were further updates that could be done to the IRC section. Note none of these updates change the requirement of the existing section but just reformat it in code language without the use of the exception and further clarify the initial intent of the section in a more user friendly format. With the approval of the above language both the IRC and IPC will have the exact same language in regard to the separation of water services and building sewers.

[HALL-PMGCAC] Reason: This revised language was approved for the 2015 IPC. There is no reason for the language to be different between the IRC and the IPC.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X10 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP104-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2905.4.2-RP-HALL-PMGCAC

RP105 – 13

Table P2905.4, P3004.3, TABLE P3302.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

**TABLE P2905.4
WATER SERVICE PIPE**

MATERIAL	STANDARD
Asbestos-cement pipe	ASTM C296

(Portions of table not shown are unchanged)

~~**P3003.4 Asbestos-cement.** Joints between asbestos-cement pipe or fittings shall be made with a sleeve coupling of the same composition as the pipe, sealed with an elastomeric ring conforming to ASTM D 1869.~~

**TABLE P3302.1
SUBSOIL DRAIN PIPE**

MATERIAL	STANDARD
Asbestos-cement pipe	ASTM C508

(Portions of table not shown are unchanged)

Reason: Asbestos cement pipe is no longer manufactured in North America. The potential health issues associated with asbestos make this piping material unsuitable for use. The material needs to be removed from the code. A similar proposal to the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 58 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

R105-13

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

P2905.4T #1-RP-HALL-PMGCAC

RP106-13

Table P2905.4

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

TABLE P2905.4
WATER SERVICE PIPE

MATERIAL	STANDARD
Polypropylene (PP) plastic tubing	ASTM F 2389; CSA B137.11

(Portions of table not shown are unchanged)

Reason: The IPC shows this material to be suitable for water service applications and the material is also indicated in Table P2905.5 as water distribution piping. There's no technical justification for not allowing it to be used for water service piping. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 59 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP106-13

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

P2905.4T #2-RP-HALL-PMGCAC

RP107 – 13

Table P2905.4, Table P2905.5, P2905.9.1.3 (New), Chapter 44

Proponent: David W. Ash, Lubrizol Advanced Materials Inc

Revise as follows:

**TABLE P2905.4
WATER SERVICE PIPE**

MATERIAL	STANDARD
Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC)	ASTM F 2855

(Portions of table not shown are unchanged)

**TABLE P2905.5
WATER DISTRIBUTION PIPE**

MATERIAL	STANDARD
Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC)	ASTM F 2855

(Portions of table not shown are unchanged)

P2905.9.1.3 CPVC/AL/CPVC pipe. Joint surfaces shall be clean and free from moisture, and an approved primer shall be applied. Solvent cement, orange in color and conforming to ASTM F493, shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and in accordance with ASTM D2846 or ASTM F493. Solvent-cement joints shall be installed above or below ground.

Exception: A primer shall not be required where all of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM F493.
2. The solvent cement used is yellow in color.
3. The solvent cement is used only for joining ½ inch (12.7 mm) through 1 inch (25.4 mm) diameter CPVC/AL/CPVC pipe and CPVC fittings.
4. The CPVC fittings are manufactured in accordance with ASTM D 2846.

Add new standard to Chapter 44 as follows:

ASTM

F2855-11 Specifications for Chlorinated Poly (Vinyl Chloride)/Aluminum/Chlorinated Poly (Vinyl Chloride) (CPVC-AL-CPVC) Composite Pressure Tubing

Reason: CPVC/AL/CPVC pipe has been developed that is suitable for use as potable water piping, both as water service pipe and water distribution pipe. This product has been used successfully on a limited basis since 2007 based on NSF Standard 61 listing and a special engineered standard (SE) from NSF International. Including this product in the IRC will recognize another plumbing pipe option for installers.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A review of the standards proposed for inclusion in the code, CSA 22.2 No. 130 and UL 515 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1 2013.

RP107-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2905.4T-RP-ASH

RP108 – 13

Table P2905.4, Table P2905.5, Table P2905.6

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

**TABLE P2905.4
WATER DISTRIBUTION PIPE**

MATERIAL	STANDARD
Brass pipe	ASTM B 43
Copper or copper-alloy pipe	ASTM B 42; <u>ASTM B 43</u> ; ASTM B 302

(Portions of table not shown are unchanged)

**TABLE P2905.5
WATER SERVICE PIPE**

MATERIAL	STANDARD
Brass pipe	ASTM B 43
Copper or copper-alloy pipe	ASTM B 42; <u>ASTM B 43</u> ; ASTM B 302

(Portions of table not shown are unchanged)

**TABLE P2905.6
PIPE FITTINGS**

MATERIAL	STANDARD
Brass pipe	ASTM F1974

(Portions of table not shown are unchanged)

Reason: Brass and Bronze are copper alloys. Moving the standards under the applicable heading eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Standard ASTM F1974 is a metal insert fitting for Polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/polyethylene (PEX-AL-PEX) and is already shown with the appropriate material.

Cost Impact: The code change proposal will not increase the cost of construction.

RP108-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P2905.4T-RP-FEEHAN.DOC

RP109 – 13

Table P2905.6, Chapter 44

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org); Curtis Dady, Viega, LLC representing Viega, LLC (curtis.dady@viega.com)

Revise as follows:

**TABLE P2905.6
PIPE FITTINGS**

MATERIALS	STANDARDS
Copper or copper alloy	ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23; ASME 16.26; ASME B16.29; ASME B16.51, ASSE 1061

Add new standard to Chapter 44 as follows:

ASME

B16.51-2011 Copper and Copper Alloy Press-Connect Pressure Fittings

Reason:

[HALL-PMCAC]: The addition of the new standard was approved for the 2015 IPC. There is no reason to not include it in the IRC.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X12 on the PMGCAC IRC-P list.

[DADY]: Harmonization with IPC and IMC proposals "Approved as Submitted" in the 2012 Final Action Hearings. Ref: P97-12; P98-12; M195-12; M198-12; M211-12

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A review of the standard proposed for inclusion in the code, ASME B16.51-2011, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1, 2013.

RP109-13

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

P2905.6T #1-RP-HALL-PMGCAC

RP110 – 13

Table P2905.6

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

**TABLE P2905.6
PIPE FITTINGS**

MATERIAL	STANDARD
Copper or copper alloy	ASSE 1061; ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23 ; ASME B16.26; ASME B16.29

Reason: This deletion was approved for the 2015 IPC. The above proposal removes DWV fittings from Potable Water table to benefit the end user. ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings - DWV and ASME B 16.29 - Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings – DWV are designed with short cup depth and ¼ inch per foot slope.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X13 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction..

RP110-13

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

P2905.6T #2-RP-HALL-PMGCAC

RP111 – 13

Table P2905.6

Proponent: Larry Gill, IPEX USA LLC (larry.gill@ipexna.com)

Revise as follows:

**TABLE P2905.6
PIPE FITINGS**

MATERIAL	STANDARD
Fittings for polyethylene of raised temperature (PE-RT) plastic tubing	ASTM F 1807; ASTM F 2098; ASTM F 2159; ASTM F 2735; <u>ASTM F 2769</u>

(Portions of table not shown remain unchanged)

Reason: Add ASTM F2769 as a fittings standard for polyethylene of raised temperature (PE-RT). ASTM F2769 is a standard for hot and cold water tubing and distribution systems and includes provisions for tubing, fittings, valves and manifolds.

Cost Impact: The code change proposal will not increase the cost of construction

Analysis: Standard ASTM F 2769 is in the 2012 IRC.

RP111-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2905.6T-RP-GILL

Table P2905.5

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee
(Dave.Hall@georgetown.org)

Revise as follows:

TABLE P2905.6
PIPE FITTINGS

MATERIAL	STANDARD
Cast-iron	ASME B16.4; ASME B16.12

(Portions of table not shown are unchanged)

Reason: ASME B16.12 is for threaded *drainage* fittings and is inappropriate to be listed in a water distribution pipe fitting table. A similar proposal submitted to the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 60 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP112-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P2905.6T-RP-HALL-PMGCAC

RP113 – 13

P2905.9.1.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2905.9.1.2 CPVC plastic pipe. Joint surfaces shall be clean and free from moisture. Joints shall be made in accordance with the pipe manufacturer's installation instructions. Where such instructions require and that an approved primer be used, the primer shall be applied to the joint surfaces and a solvent cement, orange in color and conforming to ASTM F 493, shall be applied to the joint surfaces. Where such instructions allow for a one step solvent cement, yellow in color and conforming to ASTM F 493, to be used, the joint surfaces shall not require application of a primer before the solvent cement is applied. The joint shall be made while the cement is wet and in accordance with ASTM D 2846 or ASTM F 493. Solvent cemented joints shall be ~~permitted~~ installed above or below ground.

Exception: ~~A primer is not required where all of the following conditions apply:~~

- ~~1. The solvent cement used is third-party certified as conforming to ASTM F 493.~~
- ~~2. The solvent cement used is yellow in color.~~
- ~~3. The solvent cement is used only for joining ½ inch (12.7 mm) through 2 inch (51 mm) diameter CPVC pipe and fittings.~~
- ~~4. The CPVC pipe and fittings are manufactured in accordance with ASTM D 2846.~~

Reason: This revised language was approved for the 2015 IPC.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X15 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction..

RP113-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2905.9.1.2-RP-HALL-PMGCAC

RP114 – 13

P2905.14, Chapter 44

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

P2905.14 Soldered and brazed joints. Soldered joints in copper and copper alloy tubing shall be made with fittings approved for water piping and shall conform to ASTM B 828. Surfaces to be soldered shall be cleaned bright. Fluxes for soldering shall be in accordance with ASTM B813 and shall become noncorrosive and non-toxic after soldering. Brazing fluxes shall be in accordance with AWS A5.31. ~~The joints shall be properly fluxed and made with approved solder.~~ Solders and fluxes used in potable water-supply systems shall have a lead content of not greater than 0.2 percent. ~~Fluxes shall conform to ASTM B 813.~~

Add standard to Chapter 44 as follows:

AWS

A5.31-2012 Specification for Fluxes for Brazing and Braze Welding

Reason: This proposal relocated existing sections, ensures copper and copper alloy systems are installed correctly and removes redundant language to aid the end user.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A review of the standards proposed for inclusion in the code, ASME A112.18.8 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1 2013.

RP114-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2905.14-RP-FEEHAN.DOC

RP115 – 13

P2905.17.1

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

P2905.17.1 Copper or copper-alloy tubing to galvanized steel pipe. Joints between copper or copper-alloy tubing and galvanized steel pipe shall be made with a ~~brass~~ copper alloy fitting or dielectric fitting. The copper tubing shall be joined to the fitting in an approved manner, and the fitting shall be screwed to the threaded pipe.

Reason: This proposal eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Cost Impact: The code change proposal will not increase the cost of construction.

RP115-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2905.17.1-RP-FEEHAN.DOC

RP116 – 13

P2905.18

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P2905.18 Press connect joints. Press-connect joints shall conform to one of the standards indicated in Table P2905.6. Press-type mechanical joints in copper tubing shall be made in accordance with the manufacturer's instructions. Cut tube ends shall be reamed to the full inside diameter of the tube end. Joint surfaces shall be cleaned. The tube shall be fully inserted into the press connect fitting. Press connect joints shall be pressed with a tool certified by the manufacturer. ~~using approved tools which affix the copper fitting with integral O-ring to the tubing.~~

Reason: This revised language was approved for the 2015 IPC. This change coordinates with the change to add the press connect fitting standard to Table P2905.6. The proposed new text identifies the method of joining copper tube by press connect. The tube must be cut square and reamed. The tool must be certified by the manufacturer to assure that the proper press connection is made.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X14 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP116-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2905.18-RP-HALL-PMGCAC

RP117 – 13

P2905.19

Proponent: Michael Cudahy, Plastic Pipe and Fittings Association, representing Plastic Pipe and Fittings Association (mikec@cmservnet.com)

Revise as follows:

P2905.19 Polyethylene of raised temperature plastic. Joints between polyethylene of raised temperature plastic tubing and fittings shall be in accordance with Section P2905.19.1 and Section ~~P2905.19.2.~~

~~**P2905.19.1 Flared joints.** Flared pipe ends shall be made by a tool designed for that operation.~~

(Renumber subsequent sections)

Reason: This revision was approved for the 2015 IMC. PPFA is not aware of a tool for this purpose.

Cost Impact: None

RP117-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P2905.19-RP-CUDAHY.DOC

RP118 – 13

P2905.19.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

~~P2905.19.1 Flared joints.~~ ~~Flared pipe ends shall be made by a tool designed for that operation.~~

(Renumber subsequent section)

Reason: Manufacturers of PE-RT tubing indicate that the tubing cannot be flared and that a tool for flaring this type of tubing does not exist. A similar proposal submitted to the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 61 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP118-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2905.19.1-RP-HALL-PMGCAC

RP119 – 13

P2909 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Add new section and text as follows:

P2909 BRASS FITTINGS AND VALVES

P2909.1 Brass fittings and brass valves for plastic piping systems. Where used as components of plastic piping systems and where made from copper alloys, brass fittings and brass valves shall comply with NSF14.

Reason: Dezincification of yellow brass fittings and valves has become an expensive and widespread problem. In Las Vegas alone there are 32,000 houses that are being re-piped at a cost in excess of \$300 million because of dezincification of brass fittings in PEX domestic water systems. Other parts of the country, e.g. southern California, Minnesota and Hawaii are also experiencing these failures. Failure of imported brass valves was experienced 20 years ago but corrective action taken at the time eliminated the problem. However, increasing use of imports by many companies and the deteriorating water quality in parts of the US has resulted in a 10 to 100-fold recurrence of this problem.

Since ASTM standards allow multiple copper alloys and the codes do not specifically define acceptable alloys for applications, some manufacturers choose an alloy based on cost. Brass valves and fittings made from these low-cost materials may be suitable for domestic water lines in Chicago, or drain lines, air lines or condenser water line in Las Vegas or San Diego but may fail in short order in a domestic water line in Las Vegas, San Diego or Honolulu and yet meet current codes.

This proposal provides a solution by clearly requiring compliance of all brass fittings and valves used in plastic piping systems to comply with the dezincification requirements of NSF 14. The dezincification test in NSF 14 has been accepted and used world-wide for over 30 years. The test is an effective, simple and inexpensive method for fitting and valve producers to sort corrosion-prone from corrosion-resistant alloys. Use of the dezincification performance standard in NSF 14 was developed and accepted by a broad base of fitting and valve producers and sellers. It provides a method to achieve the minimum material requirement necessary to prevent a repeat of the recent field failures that have resulted in class-action lawsuits.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 62 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: This code change proposal references NSF Standard 14, which is already referenced in the code. However, the proposed change to code text is written to correlate with a new edition of the standard NSF Standard 14-2010a, rather than the edition presently referenced in the code, which is the 2008e edition. The update to this standard will be considered by the Administrative Code Committee during the 2013 Code Development Cycle. Should this code change proposal be approved, but the update to the standard not be approved, the code text will revert to the text as it appears in the 2012 Edition of the Code.

RP119-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P2909 #1 (NEW)-RP-HALL-PMGCAC

RP120 – 13

202, P2909 (New), P2910 (New), P2911 (New), P2912 (New), P3009

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Add new definitions to Chapter 2 as follows:

RECLAIMED WATER. Nonpotable water that has been derived from the treatment of wastewater by a facility or system licensed or permitted to produce water meeting the jurisdiction's water requirements for its intended uses. Also known as "Recycled Water."

ONSITE NONPOTABLE WATER REUSE SYSTEMS. Water systems for the collection, treatment, storage, distribution, and reuse of nonpotable water generated onsite, including but not limited to graywater systems. This definition does not include rainwater harvesting systems.

COLLECTION PIPE. Unpressurized pipe used within the collection system that drains onsite non-potable water or rainwater to a storage tank by gravity.

Add new Section and new text:

SECTION P2909 **NONPOTABLE WATER SYSTEMS**

P2909.1 Scope. The provisions of this shall govern the materials, design, construction and installation of systems for the collection, storage, treatment, and distribution of non-potable water. The use and application of nonpotable water shall comply with laws, rules and ordinances applicable in the jurisdiction.

P2909.2 Water quality. Nonpotable water for each end use application shall meet the minimum water quality requirements as established for the intended application by the laws, rules and ordinances applicable in the jurisdiction. Where nonpotable water from different sources is combined in a system, the system shall comply with the most stringent of the requirements of this code that are applicable to such sources.

P2909.2.1 Residual disinfectants. Where chlorine is used for disinfection, the nonpotable water shall contain not more than 4 mg/L of chloramines or free chlorine. Where ozone is used for disinfection, the nonpotable water shall not contain gas bubbles having elevated levels of ozone at the point of use.

Exception: Reclaimed water sources shall not be required to comply with the requirements of this section.

P2909.2.2 Filtration required. Nonpotable water utilized for water closet and urinal flushing applications shall be filtered by a 100 micron or finer filter.

Exception: Reclaimed water sources shall not be required to comply with the requirements of this section.

P2909.3 Signage required. Nonpotable water outlets such as hose connections, open ended pipes, and faucets shall be identified at the point of use for each outlet with signage that reads as follows: "Nonpotable water is utilized for [application name]. Caution: Nonpotable water. DO NOT DRINK." The words shall be legibly and indelibly printed on a tag or sign constructed of corrosion-resistant, waterproof material or shall be indelibly printed on the fixture. The letters of the words shall be not less than 0.5 inches in height and in colors in contrast to the background on which they are applied. In addition to the required wordage, the pictograph shown in Figure P2909.3 shall appear on the signage required by this section.



Figure P2909.3
Pictograph DO NOT DRINK

P2909.4 Permits. Permits shall be required for the construction, installation, alteration, and repair of nonpotable water systems. Construction documents, engineering calculations, diagrams, and other such data pertaining to the non-potable water system shall be submitted with each application for permit.

P2909.5 Potable water connections. Where a potable system is connected to a nonpotable water system, the potable water supply shall be protected against backflow in accordance with Section P2902.

P2909.6 Approved components and materials. Piping, plumbing components, and materials used in the collection and conveyance systems shall be manufactured of material approved for the intended application and compatible with any disinfection and treatment systems used.

P2909.7 Insect and vermin control. The system shall be protected to prevent the entrance of insects and vermin into storage tanks and piping systems. Screen materials shall be compatible with contacting system components and shall not accelerate corrosion of system components.

P2909.8 Freeze protection. Where sustained freezing temperatures occur, provisions shall be made to keep storage tanks and the related piping from freezing.

P2909.9 Nonpotable water storage tanks. Nonpotable water storage tanks shall comply with Sections P2909.9.1 through P2909.9.11.

P2909.9.1 Sizing. The holding capacity of the storage tank shall be sized in accordance with the anticipated demand.

P2909.9.2 Location. Storage tanks shall be installed above or below grade. Above-grade storage tanks shall be protected from direct sunlight and shall be constructed using opaque, UV resistant, materials such as, but not limited to, heavily tinted plastic, lined metal, concrete, wood, or painted to prevent algae growth, or shall have specially constructed sun barriers including but not limited to installation in garages, crawlspaces, or sheds. Storage tanks and their manholes shall not be located directly under any soil piping, waste piping or any source of contamination.

P2909.9.3 Materials. Where collected onsite, water shall be collected in an approved tank constructed of durable, nonabsorbent and corrosion-resistant materials. The storage tank shall be constructed of materials compatible with any disinfection systems used to treat water upstream of the tank and with any systems used to maintain water quality within the tank. Wooden storage tanks that are not equipped with a makeup water source shall be provided with a flexible liner.

P2909.9.4 Foundation and supports. Storage tanks shall be supported on a firm base capable of withstanding the weight of the storage tank when filled to capacity. Storage tanks shall be supported in accordance with this code.

P2909.9.4.1 Ballast. Where the soil can become saturated, an underground storage tank shall be ballasted, or otherwise secured, to prevent the tank from floating out of the ground when empty. The combined weight of the tank and hold down ballast shall meet or exceed the buoyancy force of the tank. Where the installation requires a foundation, the foundation shall be flat and shall be designed to support the storage tank weight when full, consistent with the bearing capability of adjacent soil.

P2909.9.4.2 Structural support. Where installed below grade, storage tank installations shall be designed to withstand earth and surface structural loads without damage and with minimal deformation when empty or filled with water.

P2909.9.5 Makeup water. Where an uninterrupted nonpotable water supply is required for the intended application, potable or reclaimed water shall be provided as a source of makeup water for the storage tank. The makeup water supply shall be protected against backflow by means of an air gap not less than 4 inches (102 mm) above the overflow or an approved backflow device in accordance with Section P2902. A full-open valve located on the makeup water supply line to the storage tank shall be provided. Inlets to storage tank shall be controlled by fill valves or other automatic supply valves installed so as to prevent the tank from overflowing and to prevent the water level from dropping below a predetermined point. Where makeup water is provided, the water level shall be prohibited from dropping below the source water inlet or the intake of any attached pump.

P2909.9.5.1 Inlet control valve alarm. Make-up water systems shall be fitted with a warning mechanism that alerts the user to a failure of the inlet control valve to close correctly. The alarm shall activate before the water within the storage tank begins to discharge into the overflow system.

P2909.9.6 Overflow. The storage tank shall be equipped with an overflow pipe having a diameter not less than that shown in Table P2909.9.6. The overflow outlet shall discharge at a point not less than 6 inches (152 mm) above the roof or roof drain; floor or floor drain; or over an open water-supplied fixture. The overflow outlet shall be covered with a corrosion-resistant screen of not less than 16 by 20 mesh per inch (630 by 787 mesh per m) and by 1/4-inch (6.4 mm) hardware cloth or shall terminate in a horizontal angle seat check valve. Drainage from overflow pipes shall be directed so as not to freeze on roof walks. The overflow drain shall not be equipped with a shutoff valve. Not less than one cleanout shall be provided on each overflow pipe in accordance with Section P3005.2.

TABLE P2909.9.6
SIZE OF DRAIN PIPES FOR WATER TANKS

<u>TANK CAPACITY (gallons)</u>	<u>DRAIN PIPE (inches)</u>
<u>Up to 750</u>	<u>1</u>
<u>751 to 1500</u>	<u>1 1/2</u>
<u>1501 to 3000</u>	<u>2</u>
<u>3001 to 5000</u>	<u>2 1/2</u>
<u>5001 to 7500</u>	<u>3</u>
<u>Over 7500</u>	<u>4</u>

For SI: 1 gallon = 3.875 liters; 1 inch = 25.4 mm

P2909.9.7 Access. Not less than one access opening shall be provided to allow inspection and cleaning of the tank interior. Access openings shall have an approved locking device or other approved method of securing access. Below grade storage tanks, located outside of the building, shall be provided with either a manhole not less than 24 inches (610 mm) square or a manhole with an inside diameter not less than 24 inches (610 mm). Manholes shall extend not less than 4 inches (102 mm) above ground or shall be designed to as to prevent water infiltration. Finished grade shall be sloped away from the manhole to divert surface water from the manhole. Manhole covers shall be secured to prevent unauthorized access. Service ports in manhole covers shall be not less than 8 inches (203 mm) in diameter and shall be not less than 4 inches (102 mm) above the finished grade level. The service port shall be secured to prevent unauthorized access.

Exception: Storage tanks under 800 gallons (3028 l) in volume installed below grade shall not be required to be equipped with a manhole, but shall have a service port not less than 8 inches (203 mm) in diameter.

P2909.9.8 Venting. Storage tanks shall be provided with a vent sized in accordance with Chapter 31 and based on the aggregate diameter of all tank influent pipes. The reservoir vent shall not be connected to sanitary drainage system vents. Vents shall be protected from contamination by means of an approved cap or a U-bend installed with the opening directed downward. Vent outlets shall extend not less than 4 inches (102 mm) above grade, or as necessary to prevent surface water from entering the storage tank. Vent openings shall be protected against the entrance of vermin and insects in accordance with the requirements of Section P2902.7.

P2909.9.9 Drain. A drain shall be located at the lowest point of the storage tank. The tank drain pipe shall discharge as required for overflow pipes and shall not be smaller in size than specified in Table P209.9.6. Not less than one cleanout shall be provided on each drain pipe in accordance with Section P3005.2.

P2909.10 Marking and signage. Each nonpotable water storage tank shall be labeled with its rated capacity. The contents of storage tanks shall be identified with the words "CAUTION: NON-POTABLE WATER – DO NOT DRINK." Where an opening is provided that could allow the entry of personnel, the opening shall be marked with the words, "DANGER – CONFINED SPACE." Markings shall be indelibly printed on the tank, or on a tag or sign constructed of corrosion-resistant waterproof material that is mounted on the tank. The letters of the words shall be not less than 0.5 inches in height and shall be of a color in contrast with the background on which they are applied.

P2909.9.11 Storage tank tests. Storage tanks shall be tested in accordance with the following:

1. Storage tanks shall be filled with water to the overflow line prior to and during inspection. All seams and joints shall be left exposed and the tank shall remain water tight without leakage for a period of 24 hours.
2. After 24 hours, supplemental water shall be introduced for a period of 15 minutes to verify proper drainage of the overflow system and verify that there are no leaks.
3. Following a successful test of the overflow, the water level in the tank shall be reduced to a level that is at 2 inches (51 mm) below the makeup water trigger point by using the tank drain. The tank drain shall be observed for proper operation. The makeup water system shall be observed for proper operation, and successful automatic shutoff of the system at the refill threshold shall be verified. Water shall not be drained from the overflow at any time during the refill test.

P2909.10 System abandonment. If the owner of an onsite nonpotable water reuse system or rainwater collection and conveyance system elects to cease use of, or fails to properly maintain such system, the system shall be abandoned and shall comply with the following:

1. All system piping connecting to a utility-provided water system shall be removed or disabled.

2. The distribution piping system shall be replaced with an approved potable water supply piping system. Where an existing potable water pipe system is already in place, the fixtures shall be connected to the existing system.
3. The storage tank shall be secured from accidental access by sealing or locking tank inlets and access points, or filling with sand or equivalent.

P2909.11 Separation requirements for non-potable water piping. Nonpotable water collection and distribution piping and reclaimed water piping shall be separated from the building sewer and potable water piping underground by 5 feet (1524 mm) of undisturbed or compacted earth. Nonpotable water collection and distribution piping shall not be located in, under or above cesspools, septic tanks, septic tank drainage fields or seepage pits. Buried nonpotable water piping shall comply with the requirements of Section P2604.

Exceptions:

1. The required separation distance shall not apply where the bottom of the nonpotable water pipe within 5 feet (1524 mm) of the sewer is not less than 12 inches (305 mm) above the top of the highest point of the sewer and the pipe materials conforms to Table P3002.2.
2. The required separation distance shall not apply where the bottom of the potable water service pipe within 5 feet (1524 mm) of the nonpotable water pipe is a minimum of 12 inches (305 mm) above the top of the highest point of the non-potable water pipe and the pipe materials comply with the requirements of Table P2905.5
3. The required separation distance shall not apply where a nonpotable water pipe is located in the same trench with a building sewer that is constructed of materials that comply with the requirements of Table P3002.2.
4. The required separation distance shall not apply where a nonpotable water pipe crosses a sewer pipe provided that the nonpotable water pipe is sleeved to at least 5 feet (1524 mm) horizontally from the sewer pipe centerline on both sides of such crossing with pipe materials that comply with Table P3002.2
5. The required separation distance shall not apply where a potable water service pipe crosses a nonpotable water pipe provided that the potable water service pipe is sleeved for a distance of at least 5 feet (1524 mm) horizontally from the centerline of the nonpotable pipe on both sides of such crossing with pipe materials that comply with Table P3002.2.
6. The required separation distance shall not apply to irrigation piping located outside of a building and downstream of the backflow preventer where nonpotable water is used for outdoor applications.

P2909.12 Outdoor outlet access. Sillcocks, hose bibs, wall hydrants, yard hydrants, and other outdoor outlets supplied by non-potable water shall be located in a locked vault or shall be operable only by means of a removable key.

SECTION P2910 **ONSITE NONPOTABLE WATER REUSE SYSTEMS**

P2910.1 General. The provisions of this section shall govern the construction, installation, alteration, and repair of onsite nonpotable water reuse systems for the collection, storage, treatment and distribution of onsite sources of nonpotable water as permitted by the jurisdiction.

P2910.2 Sources. Onsite nonpotable water reuse systems shall collect waste discharge from only the following sources: bathtubs, showers, lavatories, clothes washers, and laundry trays. Water from other approved nonpotable sources including swimming pool backwash operations, air conditioner condensate, rainwater, foundation drain water, fluid cooler discharge water and fire pump test water shall also be permitted to be collected for reuse by onsite nonpotable water reuse systems, as approved by the building official and as appropriate for the intended application.

P2910.1 Prohibited sources. Reverse osmosis system reject water, water softener backwash water, kitchen sink wastewater, dishwasher wastewater and wastewater containing urine or fecal matter shall not be collected for reuse within an onsite nonpotable water reuse system.

P2910.3 Traps. Traps serving fixtures and devices discharging wastewater to onsite nonpotable water reuse systems shall comply with the Section P3201.2.

P2910.4 Collection pipe. Onsite nonpotable water reuse systems shall utilize drainage piping approved for use within plumbing drainage systems to collect and convey untreated water for reuse. Vent piping approved for use within plumbing venting systems shall be utilized for vents within the graywater system. Collection and vent piping materials shall comply with Section P3002.

P2910.4.1 Installation. Collection piping conveying untreated water for reuse shall be installed in accordance with Section P3005.

P2910.4.2 Joints. Collection piping conveying untreated water for reuse shall utilize joints approved for use with the distribution piping and appropriate for the intended applications as specified in Section P3002.

P2910.4.3 Size. Collection piping conveying untreated water for reuse shall be sized in accordance with drainage sizing requirements specified in Section P3005.4.

P2910.4.4 Marking. Additional marking of collection piping conveying untreated water for reuse shall not be required beyond that required for sanitary drainage, waste, and vent piping by the Chapter 30.

P2910.5 Filtration. Untreated water collected for reuse shall be filtered as required for the intended end use. Filters shall be accessible for inspection and maintenance. Filters shall utilize a pressure gage or other approved method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves installed immediately upstream and downstream to allow for isolation during maintenance.

P2910.6 Disinfection. Where the intended application for nonpotable water collected onsite for reuse requires disinfection or other treatment or both, it shall be disinfected as needed to ensure that the required water quality is delivered at the point of use. Nonpotable water collected onsite containing untreated graywater shall be retained in collection reservoirs for a maximum of 24 hours.

P2910.7 Storage tanks. Storage tanks utilized in onsite nonpotable water reuse systems shall comply with Section P2909.9. and P2910.7.1 through P2910.7.3.

P2910.7.1 Location. Storage tanks shall be located with a minimum horizontal distance between various elements as indicated in Table P2910.7.1.

TABLE P2910.7.1
LOCATION OF NON-POTABLE WATER REUSE STORAGE TANKS

<u>ELEMENT</u>	<u>MINIMUM HORIZONTAL DISTANCE FROM STORAGE TANK (FEET)</u>
<u>Critical root zone (CRZ) of protected trees</u>	<u>2</u>
<u>Lot line adjoining private lots</u>	<u>5</u>
<u>Seepage pits</u>	<u>5</u>
<u>Septic tanks</u>	<u>5</u>
<u>Water wells</u>	<u>50</u>
<u>Streams and lakes</u>	<u>50</u>
<u>Water service</u>	<u>5</u>
<u>Public water main</u>	<u>10</u>

For SI: 1 foot = 304.8 mm

P2910.7.2 Inlets. Storage tank inlets shall be designed to introduce water into the tank with minimum turbulence, and shall be located and designed to avoid agitating the contents of the storage tank.

P2910.7.3 Outlets. Outlets shall be located not less than 4 inches (102 mm) above the bottom of the storage tank, and shall not skim water from the surface.

P2910.8 Valves. Valves shall be supplied on onsite non-potable water reuse systems in accordance with Sections P2910.8.1 and P2910.8.2.

P2910.8.1 Bypass valve. One three-way diverter valve certified to NSF 50 or other approved device shall be installed on collection piping upstream of each storage tank, or drainfield, as applicable, to divert untreated onsite reuse sources to the sanitary sewer to allow servicing and inspection of the system. Bypass valves shall be installed downstream of fixture traps and vent connections. Bypass valves shall be labeled to indicate the direction of flow, connection and storage tank or drainfield connection. Bypass valves shall be installed in accessible locations. Two shutoff valves shall not be installed to serve as a bypass valve.

P2910.8.2 Backwater valve. Backwater valves shall be installed on each overflow and tank drain pipe. Backwater valves shall be in accordance with Section P3008.

P2910.9 Pumping and control system. Mechanical equipment including pumps, valves and filters shall be accessible and removable in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall appropriate for the application and in accordance with Section P2903.

P2910.10 Water-pressure reducing valve or regulator. Where the water pressure supplied by the pumping system exceeds 80 psi (552 kPa) static, a pressure-reducing valve shall be installed to reduce the pressure in the nonpotable water distribution system piping to 80 psi (552 kPa) static or less. Pressure-reducing valves shall be specified and installed in accordance with Section P2903.3.1.

P2910.11 Distribution pipe. Distribution piping utilized in onsite nonpotable water reuse systems shall comply with Sections P2910.11.1 through P2910.11.3.

Exception: Irrigation piping located outside of the building and downstream of a backflow preventer.

P2910.11.1 Materials, joints and connections. Distribution piping shall conform to the standards and requirements specified in Section P2905 for nonpotable water.

P2910.11.2 Design. Onsite nonpotable water reuse distribution piping systems shall be designed and sized in accordance with Section P2903 for the intended application.

P2910.11.3 Labeling and marking. Onsite nonpotable water distribution piping labeling and marking shall comply with Section P2901.1

P2910.12 Tests and inspections. Tests and inspections shall be performed in accordance with Sections P2910.12.1 through P2910.12.6.

P2910.12.1 Collection pipe and vent test. Drain, waste and vent piping used for onsite water reuse systems shall be tested in accordance with Section P2503.

P2910.12.2 Storage tank test. Storage tanks shall be tested in accordance with the Section P2909.9.11.

P2910.12.3 Water supply system test. The testing of makeup water supply piping and distribution piping shall be conducted in accordance with Section P2503.7

P2910.12.4 Inspection and testing of backflow prevention assemblies. The testing of backflow preventers and backwater valves shall be conducted in accordance with Section P2503.8.

P2910.12.5 Inspection vermin and insect protection. Inlets and vents to the system shall be inspected to verify that each is protected to prevent the entrance of insects and vermin into the storage tank and piping systems in accordance with Section P2909.7.

P2910.12.6 Water quality test. The quality of the water for the intended application shall be verified at the point of use in accordance with the requirements of the jurisdiction.

P2910.13 Operation and maintenance manuals. Operations and maintenance materials shall be supplied with non-potable onsite water reuse systems in accordance with Sections P2910.13.1 through P2910.13.4.

P2910.13.1 Manual. A detailed operations and maintenance manual shall be supplied in hardcopy form with all systems.

P2910.13.2 Schematics. The manual shall include a detailed system schematic, locations of all system components, and a list of all system components including manufacturer and model number.

P2910.13.3 Maintenance procedures. The manual shall provide a maintenance schedule and procedures for all system components requiring periodic maintenance. Consumable parts including filters shall be noted along with part numbers.

P2910.13.4 Operations procedures. The manual shall include system startup and shutdown procedures. The manual shall include detailed operating procedures for the system.

SECTION P2911 **NONPOTABLE RAINWATER COLLECTION AND DISTRIBUTION SYSTEMS**

P2911.1 General. The provisions of this section shall govern the construction, installation, alteration, and repair of rainwater collection and conveyance systems for the collection, storage, treatment and distribution of rainwater for non-potable applications, as permitted by the jurisdiction.

P2911.2 Collection surface. Rainwater shall be collected only from above-ground impervious roofing surfaces constructed from approved materials. Collection of water from vehicular parking or pedestrian walkway surfaces shall be prohibited except where the water is used exclusively for landscape irrigation. Overflow and bleed-off pipes from roof-mounted appliances including but not limited to evaporative coolers, water heaters, and solar water heaters shall not discharge onto rainwater collection surfaces.

P2911.3 Debris excluders. Downspouts and leaders shall be connected to a roof washer and shall be equipped with a debris excluder or equivalent device to prevent the contamination of collected rainwater with leaves, sticks, pine needles and similar material. Debris excluders and equivalent devices shall be self-cleaning.

P2911.4 Roof washer. An amount of rainwater shall be diverted at the beginning of each rain event, and not allowed to enter the storage tank, to wash accumulated debris from the collection surface. The amount of rainfall to be diverted shall be field adjustable as necessary to minimize storage tank water contamination. The roof washer shall not rely on manually operated valves or devices, and shall operate automatically. Diverted rainwater shall not be drained to the roof surface, and shall be discharged in a manner consistent with the storm water runoff requirements of the jurisdiction. Roof washers shall be accessible for maintenance and service.

P2911.5 Roof gutters and downspouts. Gutters and downspouts shall be constructed of materials that are compatible with the collection surface and the rainwater quality for the desired end use. Joints shall be water-tight.

P2911.5.1 Slope. Roof gutters, leaders, and rainwater collection piping shall slope continuously toward collection inlets and shall be free of leaks. Gutters and downspouts shall have a slope of not less than 1/8 inch per foot (10.4 mm/m) along their entire length. Gutters and downspouts shall be installed so that water does not pool at any point.

P2911.5.2 Cleanouts. Cleanouts shall be provided in the water conveyance system so as to allow access to all filters, flushes, pipes and downspouts.

P2911.6 Drainage. Water drained from the roof washer or debris excluder shall not be drained to the sanitary sewer. Such water shall be diverted from the storage tank and shall discharge to a location that will not cause erosion or damage to property. Roof washers and debris excluders shall be provided with an automatic means of self draining between rain events and shall not drain onto roof surfaces.

P2911.7 Collection pipe. Rainwater collection and conveyance systems shall utilize drainage piping approved for use within plumbing drainage systems to collect and convey captured rainwater. Vent piping approved for use within plumbing venting systems shall be utilized for vents within the rainwater system. Collection and vent piping materials shall comply with Section P3002.

P2911.7.1 Installation. Collection piping conveying captured rainwater shall be installed in accordance with Section P3005.3

P2911.7.2 Joints. Collection piping conveying captured rainwater shall utilize joints approved for use with the distribution piping and appropriate for the intended applications as specified in Section P3003

P2911.7.3 Size. Collection piping conveying captured rainwater shall be sized in accordance with drainage sizing requirements specified in Section P3005.4.

P2911.7.4 Labeling and marking. Additional marking of collection piping conveying captured rainwater for reuse shall not be required beyond that required for sanitary drainage, waste, and vent piping by the Chapter 30.

P2911.8 Filtration. Collected rainwater shall be filtered as required for the intended end use. Filters shall be accessible for inspection and maintenance. Filters shall utilize a pressure gage or other approved method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves installed immediately upstream and downstream to allow for isolation during maintenance.

P2911.9 Disinfection. Where the intended application for rainwater requires disinfection or other treatment or both, it shall be disinfected as needed to ensure that the required water quality is delivered at the point of use.

P2911.10 Storage tanks. Storage tanks utilized in nonpotable rainwater collection and conveyance systems shall comply with Section P2909.9 and P2911.10.1 through P2911.10.3.

P2911.10.1 Location. Storage tanks shall be located with a minimum horizontal distance between various elements as indicated in Table P2911.10.1.

TABLE P2911.10.1
LOCATION OF RAINWATER STORAGE TANKS

<u>Element</u>	<u>Minimum Horizontal Distance from Storage Tank (feet)</u>
Critical root zone (CRZ) of protected trees	<u>2</u>
Lot line adjoining private lots	<u>5</u>
Seepage pits	<u>5</u>
Septic tanks	<u>5</u>

For SI: 1 foot = 304.8 mm

P2911.10.2 Inlets. Storage tank inlets shall be designed to introduce collected rainwater into the tank with minimum turbulence, and shall be located and designed to avoid agitating the contents of the storage tank.

P2911.10.3 Outlets. Outlets shall be located not less than 4 inches (102 mm) above the bottom of the storage tank and shall not skim water from the surface.

P2911.11 Valves. Valves shall be supplied on rainwater collection and conveyance systems in accordance with Sections P2911.11.1 and P2911.11.2.

P2911.11.1 Influent Diversion. A means shall be provided to divert storage tank influent to allow for maintenance and repair of the storage tank system.

P2911.11.2 Backwater valve. Backwater valves shall be installed on each overflow and tank drain pipe. Backwater valves shall be in accordance with Section P3008.

P2911.12 Pumping and control system. Mechanical equipment including pumps, valves and filters shall be easily accessible and removable in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall appropriate for the application and in accordance with Section P2903.

P2911.13 Water-pressure reducing valve or regulator. Where the water pressure supplied by the pumping system exceeds 80 psi (552 kPa) static, a pressure-reducing valve shall be installed to reduce the pressure in the rainwater distribution system piping to 80 psi (552 kPa) static or less. Pressure-reducing valves shall be specified and installed in accordance with Section P2903.3.1.

P2911.14 Distribution pipe. Distribution piping utilized in rainwater collection and conveyance systems shall comply with Sections P2911.14.1 through P2911.14.3.

Exception: Irrigation piping located outside of the building and downstream of a backflow preventer.

P2911.14.1 Materials, joints and connections. Distribution piping shall conform to the standards and requirements specified in Section P2905 for nonpotable water.

P2911.14.2 Design. Distribution piping systems shall be designed and sized in accordance with the Section P2903 for the intended application.

P2911.14.3 Labeling and marking. Nonpotable rainwater distribution piping labeling and marking shall comply with Section P2901.1.

P2911.15 Tests and inspections. Tests and inspections shall be performed in accordance with Sections P2910.15.1 through P2910.15.8.

P2911.15.1 Roof gutter inspection and test. Roof gutters shall be inspected to verify that the installation and slope is in accordance with Section P2911.5.1. Gutters shall be tested by pouring not less than one gallon of water (3.8 l) into the end of the gutter opposite the collection point. The gutter being tested shall not leak and shall not retain standing water.

P2911.15.2 Roofwasher test. Roofwashers shall be tested by introducing water into the gutters. Proper diversion of the first quantity of water in accordance with the requirements of Section P2911.4 shall be verified.

P2911.15.3 Collection pipe and vent test. Drain, waste and vent piping used for rainwater collection and conveyance systems shall be tested in accordance with Section P2503.

P2911.15.4 Storage tank test. Storage tanks shall be tested in accordance with the Section P2909.9.11.

P2911.15.5 Water supply system test. The testing of makeup water supply piping and distribution piping shall be conducted in accordance with Section P2503.7.

P2911.15.6 Inspection and testing of backflow prevention assemblies. The testing of backflow preventers and backwater valves shall be conducted in accordance with Section P2503.8.

P2911.15.7 Inspection vermin and insect protection. Inlets and vents to the system shall be inspected to verify that each is protected to prevent the entrance of insects and vermin into the storage tank and piping systems in accordance with Section P2909.7.

P2911.15.8 Water quality test. The quality of the water for the intended application shall be verified at the point of use in accordance with the requirements of the jurisdiction.

P2911.16 Operation and maintenance manuals. Operations and maintenance materials shall be supplied with rainwater collection and conveyance systems in accordance with Sections P2911.16.1 through P2911.16.4.

P2911.16.1 Manual. A detailed operations and maintenance manual shall be supplied in hardcopy form with all systems.

P2911.16.2 Schematics. The manual shall include a detailed system schematic, locations of all system components, and a list of all system components including manufacturer and model number.

P2911.16.3 Maintenance procedures. The manual shall provide a maintenance schedule and procedures for all system components requiring periodic maintenance. Consumable parts including filters shall be noted along with part numbers.

P2911.16.4 Operations procedures. The manual shall include system startup and shutdown procedures. The manual shall include detailed operating procedures for the system.

SECTION P2912 **RECLAIMED WATER SYSTEMS**

P2912.1 General. The provisions of this section shall govern the construction, installation, alteration, and repair of systems supplying non-potable reclaimed water.

P2912.2 Water-pressure reducing valve or regulator. Where the reclaimed water pressure supplied to the building exceeds 80 psi (552 kPa) static, a pressure-reducing valve shall be installed to reduce the pressure in the reclaimed water distribution system piping to 80 psi (552 kPa) static or less. Pressure-reducing valves shall be specified and installed in accordance with Section P2903.3.1.

P2912.3 Reclaimed water systems. The design of the reclaimed water systems shall conform to accepted engineering practice.

P2911.3.1 Distribution pipe. Distribution piping shall comply with Sections P2912.3.1.1 through P2912.3.1.3.

Exception: Irrigation piping located outside of the building and downstream of a backflow preventer.

P2912.3.1.1 Materials, joints and connections. Distribution piping conveying reclaimed water shall conform to standards and requirements specified in Section P2905 for nonpotable water.

P2912.3.1.2 Design. Distribution piping systems shall be designed and sized in accordance with the Section P2903 for the intended application.

P2912.3.1.3 Labeling and marking. Nonpotable rainwater distribution piping labeling and marking shall comply with Section P2901.1

P2912.4 Tests and inspections. Tests and inspections shall be performed in accordance with Sections P2912.4.1 and P2912.4.2.

P2912.4.1 Water supply system test. The testing of makeup water supply piping and reclaimed water distribution piping shall be conducted in accordance with Section P2503.7

P2912.4.2 Inspection and testing of backflow prevention assemblies. The testing of backflow preventers shall be conducted in accordance with Section P2503.8

Delete and substitute as follows:

SECTION P3009 GRAY WATER RECYCLING SYSTEMS

~~P3009.1 Scope.~~ The provisions of Section P3009 shall govern the materials, design, construction and installation of gray water systems for flushing of water closets and urinals and for subsurface landscape irrigation. See Figures P3009.1(1) and P3009.1(2).

~~P3009.2 Installation.~~ In addition to the provisions of Section P3009, systems for flushing of water closets and urinals shall comply with Section P3009.13 and systems for subsurface landscape irrigation shall comply with Section P3009.14. Except as provided for in Section P3009, all systems shall comply with the provisions of the other sections of this code.

~~P3009.3 Materials.~~ Above-ground drain, waste and vent piping for gray water systems shall conform to one of the standards listed in Table P3002.1(1). Gray water underground building drainage and vent pipe shall conform to one of the standards listed in Table P3002.1(2).

~~P3009.4 Tests.~~ Drain, waste and vent piping for gray water systems shall be tested in accordance with Section P2503.

~~P3009.5 Inspections.~~ Gray water systems shall be inspected in accordance with Section P2503.

~~P3009.6 Potable water connections.~~ Only connections in accordance with Section 3009.13.1 shall be made between a gray water recycling system and a potable water system.

~~P3009.7 Waste water connections.~~ Gray water recycling systems shall receive only the waste discharge of bathtubs, showers, lavatories, clothes washers or laundry trays.

~~P3009.8 Collection reservoir.~~ Gray water shall be collected in an approved reservoir constructed of durable, nonabsorbent and corrosion-resistant materials. The reservoir shall be a closed and gas-tight vessel. Access openings shall be provided to allow inspection and cleaning of the reservoir interior.

~~P3009.9 Filtration.~~ Gray water entering the reservoir shall pass through an approved filter such as a media, sand or diatomaceous earth filter.

~~P3009.9.1 Required valve.~~ A full-open valve shall be installed downstream of the last fixture connection to the gray water discharge pipe before entering the required filter.

~~P3009.10 Overflow.~~ The collection reservoir shall be equipped with an overflow pipe having the same or larger diameter as the influent pipe for the gray water. The overflow pipe shall be trapped and shall be indirectly connected to the sanitary drainage system.

P3009.11 Drain. A drain shall be located at the lowest point of the collection reservoir and shall be indirectly connected to the sanitary drainage system. The drain shall be the same diameter as the overflow pipe required in Section P3009.10.

P3009.12 Vent required. The reservoir shall be provided with a vent sized in accordance with Chapter 31 and based on the diameter of the reservoir influent pipe.

P3009.13 Flushing water systems. Systems for flushing water closets and urinals shall comply with Sections P3009.13.1 through P3009.13.6

P3009.13.1 Collection reservoir. The holding capacity of the reservoir shall be a minimum of twice the volume of water required to meet the daily flushing requirements of the fixtures supplied with gray water, but not less than 50 gallons (189 L). The reservoir shall be sized to limit the retention time of gray water to a maximum of 72 hours.

P3009.13.2 Disinfection. Gray water shall be disinfected by an approved method that employs one or more disinfectants such as chlorine, iodine or ozone that are recommended for use with the pipes, fittings and equipment by the manufacturer of the pipes, fittings and equipment.

P3009.13.3 Makeup water. Potable water shall be supplied as a source of makeup water for the gray water system. The potable water supply shall be protected against backflow in accordance with Section P2902. There shall be a full-open valve located on the makeup water supply line to the collection reservoir.

P3009.13.4 Coloring. The gray water shall be dyed blue or green with a food grade vegetable dye before such water is supplied to the fixtures.

P3009.13.5 Materials. Distribution piping shall conform to one of the standards listed in Table P2905.4.

P3009.13.6 Identification. Distribution piping and reservoirs shall be identified as containing nonpotable water. Piping identification shall be in accordance with Section P2901.1.

P3009.14 Landscape irrigation systems. Subsurface landscape irrigation systems shall comply with Sections P3009.14.1 through P3009.14.11

P3009.14.1 Collection reservoir. Reservoirs shall be sized to limit the retention time of gray water to a maximum of 24 hours.

P3009.14.1.1 Identification. The reservoir shall be identified as containing nonpotable water.

P3009.14.2 Valves required. A check valve and a full-open valve located on the discharge side of the check valve shall be installed on the effluent pipe of the collection reservoir.

P3009.14.3 Makeup water. Makeup water shall not be required for subsurface landscape irrigation systems. Where makeup water is provided, the installation shall be in accordance with Section 3009.13.3.

P3009.14.4 Disinfection. Disinfection shall not be required for gray water used or subsurface landscape irrigation systems.

P3009.14.5 Coloring. Gray water used for subsurface landscape irrigation systems shall not be required to be dyed.

P3009.14.6 Estimating gray water discharge. The system shall be sized in accordance with the gallons-per-day-per occupant number based on the type of fixtures connected to the gray water system. The discharge shall be calculated by the following equation:

$$C = A \times B$$

A = Number of occupants:

Number of occupants shall be determined by the actual number of occupants, but not less than two occupants for one bedroom and one occupant for each additional bedroom.

B = Estimated flow demands for each occupant:

Residential—25 gallons per day (94.6 lpd) per occupant for showers, bathtubs and lavatories and 15 gallons per day (56.7 lpd) per occupant for clothes washers or laundry trays.

C = Estimated gray water discharge based on the total number of occupants.

P3009.14.7 Percolation tests. The permeability of the soil in the proposed absorption system shall be determined by percolation tests or permeability evaluation.

P3009.14.7.1 Percolation tests and procedures. At least three percolation tests in each system area shall be conducted. The holes shall be spaced uniformly in relation to the bottom depth of the proposed absorption system. More percolation tests shall be made where necessary, depending on system design.

P3009.14.7.1.1 Percolation test hole. The test hole shall be dug or bored. The test hole shall have vertical sides and a horizontal dimension of 4 inches to 8 inches (102 mm to 203 mm). The bottom and sides of the hole shall be scratched with a sharp-pointed instrument to expose the natural soil. All loose material shall be removed from the hole and the bottom shall be covered with 2 inches (51 mm) of gravel or coarse sand.

P3009.14.7.1.2 Test procedure, sandy soils. The hole shall be filled with clear water to a minimum of 12 inches (305 mm) above the bottom of the hole for tests in sandy soils. The time for this amount of water to seep away shall be determined, and this procedure shall be repeated if the water from the second filling of the hole seeps away in 10 minutes or less. The test shall proceed as follows: Water shall be added to a point not more than 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, water levels shall be measured at 10-minute intervals for a period of 1 hour. Where 6 inches (152 mm) of water seeps away in less than 10 minutes, a shorter interval between measurements shall be used, but in no case shall the water depth exceed 6 inches (152 mm). Where 6 inches (152 mm) of water seeps away in less than 2 minutes, the test shall be stopped and a rate of less than 3 minutes per inch (7.2 s/mm) shall be reported. The final water level drop shall be used to calculate the percolation rate. Soils not meeting the above requirements shall be tested in accordance with Section 3009.14.7.1.3.

P3009.14.7.1.3 Test procedure, other soils. The hole shall be filled with clear water, and a minimum water depth of 12 inches (305 mm) shall be maintained above the bottom of the hole for a 4-hour period by refilling whenever necessary or by use of an automatic siphon. Water remaining in the hole after 4 hours shall not be removed. Thereafter, the soil shall be allowed to swell not less than 16 hours or more than 30 hours. Immediately after the soil swelling period, the measurements for determining the percolation rate shall be made as follows: Any soil sloughed into the hole shall be removed and the water level shall be adjusted to 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, the water level shall be measured at 30-minute intervals for a period of 4 hours, unless two successive water level drops do not vary by more than 1/16 inch (1.59 mm). At least three water level drops shall be observed and recorded. The hole shall be filled with clear water to a point not more than 6 inches (152 mm) above the gravel or coarse sand whenever it becomes nearly empty. Adjustments of the water level shall not be made during the three measurement periods except to the limits of the last measured water level drop. When the first 6 inches (152 mm) of water seeps away in less than 30 minutes, the time interval between measurements shall be 10 minutes and the test run for 1 hour. The

water depth shall not exceed 5 inches (127 mm) at any time during the measurement period. The drop that occurs during the final measurement period shall be used in calculating the percolation rate.

P3009.14.7.1.4 Mechanical test equipment. Mechanical percolation test equipment shall be of an approved type.

P3009.14.7.2 Permeability evaluation. Soil shall be evaluated for estimated percolation based on structure and texture in accordance with accepted soil evaluation practices. Borings shall be made in accordance with Section P3009.14.7.1 for evaluating the soil.

P3009.14.8 Subsurface landscape irrigation site location. The surface grade of all soil absorption systems shall be located at a point lower than the surface grade of any water well or reservoir on the same or adjoining lot. Where this is not possible, the site shall be located so that surface water drainage from the site is not directed toward a well or reservoir. The soil absorption system shall be located with a minimum horizontal distance between various elements as indicated in Table P3009.14.8. Private sewage disposal systems in compacted areas, such as parking lots and driveways, are prohibited. Surface water shall be diverted away from any soil absorption site on the same or neighboring lots.

**TABLE P3009.14.8
LOCATION OF GRAY WATER SYSTEM**

P3009.14.9 Installation. Absorption systems shall be installed in accordance with Sections P3009.14.9.1 through P3009.14.9.5 to provide landscape irrigation without surfacing of gray water.

P3009.14.9.1 Absorption area. The total absorption area required shall be computed from the estimated daily gray water discharge and the design loading rate based on the percolation rate for the site. The required absorption area equals the estimated gray water discharge divided by the design loading rate from Table P3009.14.9.1.

**TABLE P3009.14.9.1
DESIGN LOADING RATE**

P3009.14.9.2 Seepage trench excavations. Seepage trench excavations shall be a minimum of 1 foot (304 mm) to a maximum of 5 feet (1524 mm) wide. Trench excavations shall be spaced a minimum of 2 feet (610 mm) apart. The soil absorption area of a seepage trench shall be computed by using the bottom of the trench area (width) multiplied by the length of pipe. Individual seepage trenches shall be a maximum of 100 feet (30 480 mm) in developed length.

P3009.14.9.3 Seepage bed excavations. Seepage bed excavations shall be a minimum of 5 feet (1524 mm) wide and have more than one distribution pipe. The absorption area of a seepage bed shall be computed by using the bottom of the trench area. Distribution piping in a seepage bed shall be uniformly spaced a maximum of 5 feet (1524 mm) and a minimum of 3 feet (914 mm) apart, and a maximum of 3 feet (914 mm) and a minimum of 1 foot (305 mm) from the sidewall or headwall.

P3009.14.9.4 Excavation and construction. The bottom of a trench or bed excavation shall be level. Seepage trenches or beds shall not be excavated where the soil is so wet that such material rolled between the hands forms a soil wire. All smeared or compacted soil surfaces in the sidewalls or bottom of seepage trench or bed excavations shall be scarified to the depth of smearing or compaction and the loose material removed. Where rain falls on an open excavation, the soil shall be left until sufficiently dry so a soil wire will not form when soil from the excavation bottom is rolled between the hands. The bottom area shall then be scarified and loose material removed.

P3009.14.9.5 Aggregate and backfill. A minimum of 6 inches of aggregate ranging in size from 1/2 to 2 1/2 inches (12.7 mm to 64 mm) shall be laid into the trench below the distribution piping elevation. The aggregate shall be evenly distributed a minimum of 2 inches (51 mm) over the top of the distribution pipe.

The aggregate shall be covered with approved synthetic materials or 9 inches (229mm) of uncompacted marsh hay or straw. Building paper shall not be used to cover the aggregate. A minimum of 9 inches (229 mm) of soil backfill shall be provided above the covering.

P3009.14.10 Distribution piping. Distribution piping shall be not less than 3 inches (76 mm) in diameter. Materials shall comply with Table P3009.14.10. The top of the distribution pipe shall be not less than 8 inches (203 mm) below the original surface. The slope of the distribution pipes shall be a minimum of 2 inches (51 mm) and a maximum of 4 inches (102 mm) per 100 feet (30 480 mm).

P3009.14.11 Joints. Joints in distribution pipe shall be made in accordance with Section P3003.

Add new section and text.

SECTION P3009

SUBSURFACE LANDSCAPE IRRIGATION SYSTEMS

P3009.1 Scope. The provisions of this section shall govern the materials, design, construction and installation of subsurface landscape irrigation systems connected to nonpotable water from onsite water reuse systems.

P3009.2 Materials. Above-ground drain, waste and vent piping for subsurface landscape irrigation systems shall conform to one of the standards listed in Table P3002.2(1). Subsurface landscape irrigation underground building drainage and vent pipe shall conform to one of the standards listed in Table P3002.1(2).

P3009.3 Tests. Drain, waste and vent piping for subsurface landscape irrigation systems shall be tested in accordance with Section P2503.

P3009.4 Inspections. Subsurface landscape irrigation systems shall be inspected in accordance with Section R109.

P3009.5 Disinfection. Disinfection shall not be required for onsite non-potable reuse water used for subsurface landscape irrigation systems.

P3009.6 Coloring. Onsite non-potable reuse water used for subsurface landscape irrigation systems shall not be required to be dyed.

P3009.7 Sizing. The system shall be sized in accordance with the sum of the output of all water sources connected to the subsurface irrigation system. Where gray water collection piping is connected to subsurface landscape irrigation systems, gray water output shall be calculated according to the gallons-per-day-per-occupant (liters per day per occupant) number based on the type of fixtures connected. The gray water discharge shall be calculated by the following equation:

$$C = A \times B \quad (\text{Equation 30-1})$$

where:

A = Number of occupants:

Number of occupants shall be determined by the actual number of occupants, but not less than two occupants for one bedroom and one occupant for each additional bedroom.

B = Estimated flow demands for each occupant:

25 gallons per day (94.6 lpd) per occupant for showers, bathtubs and lavatories and 15 gallons per day (56.7 lpd) per occupant for clothes washers or laundry trays.

C = Estimated gray water discharge based on the total number of occupants.

P3009.8 Percolation tests. The permeability of the soil in the proposed absorption system shall be determined by percolation tests or permeability evaluation.

P3009.8.1 Percolation tests and procedures. Not less than three percolation tests in each system area shall be conducted. The holes shall be spaced uniformly in relation to the bottom depth of the proposed absorption system. More percolation tests shall be made where necessary, depending on system design.

P3009.8.1.1 Percolation test hole. The test hole shall be dug or bored. The test hole shall have vertical sides and a horizontal dimension of 4 inches to 8 inches (102 mm to 203 mm). The bottom and sides of the hole shall be scratched with a sharp-pointed instrument to expose the natural soil. All loose material shall be removed from the hole and the bottom shall be covered with 2 inches (51 mm) of gravel or coarse sand.

P3009.8.1.2 Test procedure, sandy soils. The hole shall be filled with clear water to a minimum of 12 inches (305 mm) above the bottom of the hole for tests in sandy soils. The time for this amount of water to seep away shall be determined, and this procedure shall be repeated if the water from the second filling of the hole seeps away in 10 minutes or less. The test shall proceed as follows: Water shall be added to a point not more than 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, water levels shall be measured at 10-minute intervals for a period of 1 hour. Where 6 inches (152 mm) of water seeps away in less than 10 minutes, a shorter interval between measurements shall be used, but in no case shall the water depth exceed 6 inches (152 mm). Where 6 inches (152 mm) of water seeps away in less than 2 minutes, the test shall be stopped and a rate of less than 3 minutes per inch (7.2 s/mm) shall be reported. The final water level drop shall be used to calculate the percolation rate. Soils not meeting the above requirements shall be tested in accordance with Section P3009.8.1.3

P3009.8.1.3 Test procedure, other soils. The hole shall be filled with clear water, and a minimum water depth of 12 inches (305 mm) shall be maintained above the bottom of the hole for a 4-hour period by refilling whenever necessary or by use of an automatic siphon. Water remaining in the hole after 4 hours shall not be removed. Thereafter, the soil shall be allowed to swell not less than 16 hours or more than 30 hours. Immediately after the soil swelling period, the measurements for determining the percolation rate shall be made as follows: any soil sloughed into the hole shall be removed and the water level shall be adjusted to 6 inches (152 mm) above the gravel or coarse sand. Thereupon, from a fixed reference point, the water level shall be measured at 30-minute intervals for a period of 4 hours, unless two successive water level drops do not vary by more than 1/16 inch (1.59 mm). At least three water level drops shall be observed and recorded. The hole shall be filled with clear water to a point not more than 6 inches (152 mm) above the gravel or coarse sand whenever it becomes nearly empty. Adjustments of the water level shall not be made during the three measurement periods except to the limits of the last measured water level drop. When the first 6 inches (152 mm) of water seeps away in less than 30 minutes, the time interval between measurements shall be 10 minutes and the test run for 1 hour. The water depth shall not exceed 5 inches (127 mm) at any time during the measurement period. The drop that occurs during the final measurement period shall be used in calculating the percolation rate.

P3009.8.1.4 Mechanical test equipment. Mechanical percolation test equipment shall be of an approved type.

P3009.8.2 Permeability evaluation. Soil shall be evaluated for estimated percolation based on structure and texture in accordance with accepted soil evaluation practices. Borings shall be made in accordance with Section P3009.8.1.1 for evaluating the soil.

P3009.9 Subsurface landscape irrigation site location. The surface grade of all soil absorption systems shall be located at a point lower than the surface grade of any water well or reservoir on the same or adjoining lot. Where this is not possible, the site shall be located so surface water drainage from the site is not directed toward a well or reservoir. The soil absorption system shall be located with a

minimum horizontal distance between various elements as indicated in Table P3009.9. Private sewage disposal systems in compacted areas, such as parking lots and driveways, are prohibited. Surface water shall be diverted away from any soil absorption site on the same or neighboring lots.

TABLE P3009.9
LOCATION OF SUBSURFACE IRRIGATION SYSTEM

ELEMENT	MINIMUM HORIZONTAL DISTANCE	
	STORAGE TANK (feet)	IRRIGATION DISPOSAL FIELD (feet)
<u>Buildings</u>	<u>5</u>	<u>2</u>
<u>Lot line adjoining private property</u>	<u>5</u>	<u>5</u>
<u>Water wells</u>	<u>50</u>	<u>100</u>
<u>Streams and lakes</u>	<u>50</u>	<u>50</u>
<u>Seepage pits</u>	<u>5</u>	<u>5</u>
<u>Septic tanks</u>	<u>0</u>	<u>5</u>
<u>Water service</u>	<u>5</u>	<u>5</u>
<u>Public water main</u>	<u>10</u>	<u>10</u>

For SI: 1 foot = 304.8 mm.

P3009.10 Installation. Absorption systems shall be installed in accordance with Sections P3009.10.1 through P3009.10.5 to provide landscape irrigation without surfacing of water.

P3009.10.1 Absorption area. The total absorption area required shall be computed from the estimated daily gray water discharge and the design-loading rate based on the percolation rate for the site. The required absorption area equals the estimated gray water discharge divided by the design-loading rate from Table P3009.10.1.

TABLE P3009.10.1
DESIGN LOADING RATE

PERCOLATION RATE (minutes per inch)	DESIGN LOADING FACTOR (gallons per square foot per day)
<u>0 to less than 10</u>	<u>1.2</u>
<u>10 to less than 30</u>	<u>0.8</u>
<u>30 to less than 45</u>	<u>0.72</u>
<u>45 to 60</u>	<u>0.4</u>

For SI: 1 minute per inch = min/25.4 mm, 1 gallon per square foot = 40.7 L/m².

P3009.10.2 Seepage trench excavations. Seepage trench excavations shall be not less than 1 foot (304 mm) in width and not greater than 5 feet (1524 mm) in width. Trench excavations shall be spaced not less than 2 feet (610 mm) apart. The soil absorption area of a seepage trench shall be computed by using the bottom of the trench area (width) multiplied by the length of pipe. Individual seepage trenches shall be not greater than 100 feet (30 480 mm) in developed length.

P3009.10.3 Seepage bed excavations. Seepage bed excavations shall be not less than 5 feet (1524 mm) in width and have more than one distribution pipe. The absorption area of a seepage bed shall be computed by using the bottom of the trench area. Distribution piping in a seepage bed shall be uniformly spaced not greater than 5 feet (1524 mm) and not less than 3 feet (914 mm) apart, and greater than 3 feet (914 mm) and not less than 1 foot (305 mm) from the sidewall or headwall.

P3009.10.4 Excavation and construction. The bottom of a trench or bed excavation shall be level. Seepage trenches or beds shall not be excavated where the soil is so wet that such material rolled between the hands forms a soil wire. All smeared or compacted soil surfaces in the sidewalls or bottom of seepage trench or bed excavations shall be scarified to the depth of smearing or compaction and the loose material removed. Where rain falls on an open excavation, the soil shall be left until sufficiently dry so a soil wire will not form when soil from the excavation bottom is rolled between the hands. The bottom area shall then be scarified and loose material removed.

P3009.10.5 Aggregate and backfill. Not less than 6 inches in depth of aggregate ranging in size from 1/2 to 2-1/2 inches (12.7 mm to 64 mm) shall be laid into the trench below the distribution piping elevation. The aggregate shall be evenly distributed not less than 2 inches (51 mm) in depth over the top of the distribution pipe. The aggregate shall be covered with approved synthetic materials or 9 inches (229 mm) of uncompacted marsh hay or straw. Building paper shall not be used to cover the aggregate. Not less than 9 inches (229 mm) of soil backfill shall be provided above the covering.

P3009.11 Distribution piping. Distribution piping shall be not less than 3 inches (76 mm) in diameter. Materials shall comply with Table P3009.11. The top of the distribution pipe shall be not less than 8 inches (203 mm) below the original surface. The slope of the distribution pipes shall be not less than 2 inches (51 mm) and not greater than 4 inches (102 mm) per 100 feet (30 480 mm).

**TABLE P3009.11
DISTRIBUTION PIPE**

<u>MATERIAL</u>	<u>STANDARD</u>
Polyethylene (PE) plastic pipe	<u>ASTM F 405</u>
Polyvinyl chloride (PVC) plastic pipe	<u>ASTM D 2729</u>
Polyvinyl chloride (PVC) plastic pipe with a 3.5 inch O.D. and solid cellular core or composite wall.	<u>ASTM F 1488</u>

For SI: 1 inch = 25.4 mm

P3009.11.1 Joints. Joints in distribution pipe shall be made in accordance with Section P3003 of this code.

Add new standard to Chapter 44:

NSF

50-2010 Equipment for Swimming Pools, Spas, Hot Tubs, and other Recreational Water Facilities

Reason: The sections shown to be added to the code are from the IgCC. These sections really need to be in the IRC as these subjects are more applicable to the IRC scope. Currently, the IRC does not address different types of nonpotable water (other than gray water) and therefore provides no guidance as to how nonpotable waters are to be collected, stored and distributed. This proposal for the 2015 IPC was Approved as Modified by Public Comment.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 68 on the PMGCAC IRC-P list.

Cost impact: The code change proposal will not increase the cost of construction.

Analysis: Standard NSF 50 is in the referenced standards of the 2012 ISPC.

RP120-13

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

P2909 #2 (NEW)-RP-HALL-PMGCAC

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P2911 (New), P2911.1 (New), Table P2911.1 (New)

Proponent: Gary Klein, representing Affiliated International Management, LLC
(Gary@aim4sustainability.com)

Add new text as follows:

SECTION P2911 **HEATED WATER DISTRIBUTION SYSTEMS**

P2911.1 Minimum heated water fixture supply pipe sizing. The fixture supply piping conveying heated water to fixture fittings and appliances shall be sized in accordance with flow rates in Table P2911.1.

TABLE P2911.1
MINIMUM FIXTURE SUPPLY PIPING SIZE
FOR HEATED WATER

<u>FLOW RATE</u> <u>(gpm)</u>	<u>NOMINAL PIPING OR TUBING SIZE</u> <u>(inches)</u>
<u>≤ 0.5</u>	<u>1/4</u>
<u>>0.5 to ≤1.0</u>	<u>5/16</u>
<u>>1.0 to ≤1.5</u>	<u>3/8</u>

Reason: The purpose of this code change is to ensure that the minimum diameter of the tubing on a fixture supply is safely (pressure drop and velocity) matched to the flow rate of the fixture to which it is connected. Enabling smaller diameter tubing is important to energy efficiency because it reduces the volume in the fixture supply, which reduces the temperature drop during the use periods and the energy that is lost when the water in the piping cools down. It also has the benefit of reducing the time it takes for hot water to arrive.

As plumbing fixture flow rates get lower, as long as the maximum flow rate is selected properly, the physics clearly indicates that there will be no pressure loss or velocity problems if smaller diameter tubing is allowed. The flow rates and diameters in the table were selected using the same formula used by plumbing engineers to design hot water distribution systems. In accordance with the 2012 IPC, the maximum developed length was capped at 50 feet. The pressure drop was limited to 5 psi and the velocity was limited to 4 feet per second. Types K, L, and M, PEX and CPVC were evaluated. In order to make it simple to inspect, the maximum flow rate for each nominal diameter was chosen so that the worst performing material still met the criteria.

Cost Impact: The code change proposal will not increase the cost of construction.

RP121-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P2911.1 (NEW)-RP-KLEIN

RP122 – 13

Table P3002.1(1)

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

TABLE P3002.1(1)
ABOVE-GROUND DRAINAGE AND VENT PIPE

PIPE MATERIAL	STANDARD
Brass pipe	ASTM B 43
Copper or copper-alloy pipe	ASTM B 42; <u>ASTM B 43</u> ; ASTM B 302

(Portions of table not shown remain unchanged)

Reason: This proposal eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Cost Impact: The code change proposal will not increase the cost of construction.

RP122-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P3002.1(1)T-RP-FEEHAN.DOC

RP123 - 13

P3002.2.1 (New)

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org); Richard Grace/Fairfax County/Virginia Plumbing and Mechanical Inspectors Association and Virginia Building and Code Officials Association

Add new text as follows:

P3002.2.1 Building sewer pipe near the water service. The proximity of a building sewer to a water service shall comply with Section P2905.4.2.

Reason:

[HALL-PMGCAC]: The addition of this language to Chapter 30 provides an important pointer to the requirements of P2905.4.2 for separation between the water service piping and the building sewer piping. The IPC has the same pointer because sewer installers might overlook this important safety requirement.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X21 on the PMGCAC IRC-P list.

[GRACE]: The existing IRC sanitary drainage section has no section that points you back to the water distribution chapter to see the complete separation requirement for the a water service and a building sewer. While we feel it is not necessary to put the same redundant language in two different sections within the same code we feel it is necessary to point to the section which clearly states the requirements which is P2905.4.2.

Cost Impact: The code change proposal will not increase the cost of construction.

RP123-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3002.2.1 (NEW)-RP-HALL-PMGCAC

RP124 – 13

P3003.5, P3003.5.1, P3003.5.2, P3003.5.3, P3003.10, P3003.10.1, P3003.10.3, P3003.10.11, P3003.10.11.1, P3003.10.11.2, P3003.10.11.3

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

~~**P3003.5 Brass.** Joints between brass pipe or fittings shall comply with Sections P3003.5.1 through 3003.5.3.~~

~~**P3003.5.1 Brazed joints.** All joint surfaces shall be cleaned. An approved flux shall be applied where required. The joint shall be brazed with a filler metal conforming to AWS A5.8.~~

~~**P3003.5.2 Mechanical joints.** Mechanical joints shall be installed in accordance with the manufacturer's instructions.~~

~~**P3003.5.3 Threaded joints.** Threads shall conform to ASME B1.20.1. Pipe joint compound or tape shall be applied on the male threads only.~~

(Renumber subsequent sections)

P3003.10 Copper and copper alloy pipe and tubing. Joints between copper or copper alloy pipe, tubing, or fittings shall comply with Sections P3003.10.1 through P3003.10.4.

P3003.10.1 Brazed joints. All joint surfaces shall be cleaned. An approved flux shall be applied where required. Brazing materials shall have a melting point in excess of 1,000°F (538°C). The joint shall be Brazeing alloys with a filler metal shall be in accordance with conforming to AWS A5.8.

P3003.10.2 Mechanical joints. Mechanical joints shall be installed in accordance with the manufacturer's instructions.

P3003.10.3 Soldered joints. Copper and copper alloy Solder joints shall be made soldered in accordance with ~~the methods of~~ ASTM B 828. All cut tube ends shall be reamed to the full inside diameter of the tube end. All joint surfaces shall be cleaned. A Fluxes for soldering shall be in accordance with conforming to ASTM B 813 and shall become applied noncorrosive and non-toxic after soldering. The joint shall be soldered with a solder conforming to ASTM B 32.

P3003.10.4 Threaded joints. Threads shall conform to ASME B1.20.1. Pipe-joint compound or tape shall be applied on the male threads only.

~~**P3003.11 Copper tubing.** Joints between copper or copper alloy tubing or fittings shall comply with Sections P3003.11.1 through P3003.11.3.~~

~~**P3003.11.1 Brazed joints.** All joint surfaces shall be cleaned. An approved flux shall be applied where required. The joint shall be brazed with a filler metal conforming to AWS A5.8.~~

~~**P3003.11.2 Mechanical joints.** Mechanical joints shall be installed in accordance with the manufacturer's instructions.~~

~~**P3003.11.3 Soldered joints.** Solder joints shall be made in accordance with the methods of ASTM B 828. Cut tube ends shall be reamed to the full inside diameter of the tube end. All joint surfaces shall be cleaned. A flux conforming to ASTM B 813 shall be applied. The joint shall be soldered with a solder conforming to ASTM B 32.~~

(Renumber subsequent sections)

Reason: Brass and Bronze are copper alloys and by combining pipe and tubing section P3003.10, section P3003.11 is no longer necessary. This proposal eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Cost Impact: None

RP124-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P3003.5-RP-FEEHAN.DOC

RP125 – 13

P3003.6.1

Proponent: Dave Parney, Cast Iron Soil Pipe Institute, representing himself.

Revise as follows:

P3003.6.1 Caulked joints. Joints for hub and spigot pipe shall be firmly packed with oakum or hemp. Molten lead shall be poured in one operation to a depth of not less than 1 inch (25 mm). The lead shall not recede more than 1/8 inch (3 mm) below the rim of the hub and shall be caulked tight. Paint, varnish or other coatings shall not be permitted on the jointing material until after the joint has been tested and *approved*. Lead shall be run in one pouring and shall be caulked tight. ~~Acid-resistant rope and acidproof cement shall be permitted.~~

Reason: Because it would be extremely rare to be installing Duriron or glass acid resistance drainage piping in a single or two family detached home or townhouses of 3 stories or less (which is what the IRC covers), I suggest just removing that sentence about acid resistant rope and acid-proof cement.

Cost Impact: The code change proposal will not increase the cost of construction.

RP125-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P3003.6.1-RP-PARNEY.DOC

RP126 – 13

P3003.6.3. Chapter 44

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P3003.6.3 Mechanical joint coupling. Mechanical joint couplings for hubless pipe and fittings shall consist of an elastomeric sealing sleeve and a metallic shield that comply with CISPI 310, ~~or~~ ASTM C1277 ~~or~~ ASTM C1540. The elastomeric sealing sleeve shall conform to ASTM C564 or CSA B602 and shall have ~~be provided with~~ a center stop. Mechanical joint couplings shall be installed in accordance with the manufacturer's installation instructions.

Add standard to Chapter 44:

ASTM

C1540-08 Specification for Heavy Duty Shielded Couplings Joining Hubless Cast-Iron Soil Pipe and Fittings

Reason: This revised language was approved for the 2015 IPC. The phrase "consist of an elastomeric sealing sleeve and a metallic shield that" should be added to provide the same clarification for the IRC. The ASTM C1540 standard is being added and other changes are being made to make this section identical to the same section in the IPC. While it is unlikely that heavy duty shielded couplings would normally be used in residential applications, there is nothing wrong with allowing their use if the installer wishes to use them. Note that ASTM C1540 is already a referenced standard in the IPC.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X22 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP126-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3003.6.3-RP-HALL-PMGCAC

RP127 – 13

P3003.8, P3003.8.1, P3003.8.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Delete without substitution:

~~P3003.8 Coextruded composite ABS pipe.~~ Joints between coextruded composite pipe with an ABS outer layer or ABS fittings shall comply with Sections P3003.8.1 and P3003.8.2.

~~P3003.8.1 Mechanical joints.~~ Mechanical joints on drainage pipe shall be made with an elastomeric seal conforming to ASTM C 1173, ASTM D 3212 or CSA B602. Mechanical joints shall not be installed in above-ground systems, unless otherwise approved. Joints shall be installed in accordance with the manufacturer's instructions.

~~P3003.8.2 Solvent cementing.~~ Joint surfaces shall be clean and free from moisture. Solvent cement that conforms to ASTM D 2235 or CSA B181.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet. Joints shall be made in accordance with ASTM D 2235, ASTM D 2661, ASTM F 628 or CSA B181.1. Solvent cement joints shall be permitted above or below ground.

(Renumber subsequent sections)

Reason: ABS pipe can be made by several different methods. The manufacturing method of an ABS pipe has nothing to do with how the pipe is joined. All forms of ABS pipe are joined by the joining method for ABS pipe, Section P3003.3.2. These sections are redundant and should be deleted. A similar proposal to the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 63 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP127-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3003.8-RP-HALL-PMGCAC

RP128 – 13

P3003.9, P3003.9.1, P3003.9.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee
(Dave.Hall@georgetown.org)

Delete without substitution:

~~P3003.9 Coextruded composite PVC pipe.~~ Joints between coextruded composite pipe with a PVC outer layer or PVC fittings shall comply with Sections P3003.9.1 and P3003.9.2.

~~P3003.9.1 Mechanical joints.~~ Mechanical joints on drainage pipe shall be made with an elastomeric seal conforming to ASTM D 3212. Mechanical joints shall not be installed in above-ground systems, unless otherwise approved. Joints shall be installed in accordance with the manufacturer's instructions.

~~P3003.9.2 Solvent cementing.~~ Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3 or CSA B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet, and shall be in accordance with ASTM D 2855. Solvent cement joints shall be permitted above or below ground.

(Renumber subsequent sections)

Reason: PVC pipe can be made by several different methods. The manufacturing method of a PVC pipe has nothing to do with how the pipe is joined. All forms of PVC pipe are joined by the joining method for PVC pipe, Section P3003.14.2. These sections are redundant and should be deleted. A similar proposal to the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 64 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP128-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3003.9-RP-HALL-PMGCAC

RP129 – 13

P3003.9.2, P3003.14.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org); Michael Cudahy, Plastic Pipe and Fittings Association, representing Plastic Pipe and Fittings Association (mikec@cmservnet.com)

Revise as follows:

P3003.9.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be ~~permitted~~ installed above or below ground.

Exception: A primer shall not be required where both of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in non-pressure applications in sizes up to and including 4 inch (102 mm) in diameter.

P3003.14.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be ~~permitted~~ installed above or below ground.

Exception: A primer shall not be required where both of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D 2564.
2. The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in non-pressure applications in sizes up to and including 4 inch (102 mm) in diameter

Reason: The addition of this exception was approved for the 2015 IPC. This exception allows for an optional one-step procedure for joining non-pressure DWV PVC piping systems 4" in diameter and below with solvent cement conforming to ASTM D 2564. This method is commonly practiced, and the code should include specific language to indicate when and where the practice is acceptable.

Pressure testing completed by NSF International has shown that solvent cement conforming to ASTM D 2564, when used without primer on PVC DWV pipe and fittings, both solid wall and cell core, generates bonding forces well in excess of what is required for these systems. The strength of the joint often exceeds the pipe and fitting pressure capacity. ICC Code Development initiative for clearer code language has identified the phrase "shall be permitted" to be nonmandatory language that needs to be eliminated from code text wherever possible.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X23 on the PMGCAC IRC-P list.

Bibliography: NSF International report J-00036842 can be found on the PPFA website, www.ppfa.org/ICC09/PPFA_NSF_J-00036842.pdf

Cost Impact: The code change proposal will not increase the cost of construction.

RP129-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3003.9.2-RP-HALL-PMGCAC

RP130 – 13

P3003.18.1, P3003.18.2, P3003.18.3

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

P3003.18.1 Copper or copper-alloy tubing to cast-iron hub pipe. Joints between copper or copper-alloy tubing and cast-iron hub pipe shall be made with a ~~brass~~ copper alloy ferrule or compression joint. The copper or copper-alloy tubing shall be soldered to the ferrule in an approved manner, and the ferrule shall be joined to the cast-iron hub by a caulked joint or a mechanical compression joint.

P3003.18.2 Copper or copper-alloy tubing to galvanized steel pipe. Joints between copper or copper-alloy tubing and galvanized steel pipe shall be made with a ~~brass converter~~ copper alloy fitting or dielectric fitting. The copper tubing shall be soldered to the fitting in an approved manner, and the fitting shall be screwed to the threaded pipe.

P3003.18.3 Cast-iron pipe to galvanized steel or brass pipe. Joints between cast-iron and galvanized steel or ~~brass~~ copper alloy pipe shall be made by either caulked or threaded joints or with an approved adapter fitting.

Reason: This proposal eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Cost Impact: The code change proposal will not increase the cost of construction.

RP130-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P3003.18.1-RP-FEEHAN.DOC

RP131 – 13

P3005.1, P3005.1.1, P3005.1.2, P3005.1.3, Table 3005.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Delete Table 3005.1 in its entirety without substitution.

Delete and substitute as follows:

P3005.1 Drainage fittings and connections. Changes in direction in drainage piping shall be made by the appropriate use of sanitary tees, wyes, sweeps, bends or by a combination of these drainage fittings in accordance with Table P3005.1. Change in direction by combination fittings, heel or side inlets or increasers shall be installed in accordance with Table P3005.1 and Sections P3005.1.1 through P3005.1.4. based on the pattern of flow created by the fitting.

P3005.1.1 Horizontal to vertical (multiple connection fittings). Double fittings such as double sanitary tees and tee-yses or approved multiple connection fittings and back-to-back fixture arrangements that connect two or more branches at the same level shall be permitted as long as directly opposing connections are the same size and the discharge into directly opposing connections is from similar fixture types or fixture groups. Double sanitary tee patterns shall not receive the discharge of back-to-back water closets and fixtures or appliances with pumping action discharge.

Exception: Back-to-back water closet connections to double sanitary tee patterns shall be permitted where the horizontal *developed length* between the outlet of the water closet and the connection to the double sanitary tee is 18 inches (457 mm) or greater.

P3005.1.2 Heel or side inlet quarter bends, drainage. Heel inlet quarter bends shall be an acceptable means of connection, except where the quarter bends serves a water closet. A low heel inlet shall not be used as a wet vented connection. Side inlet quarter bends shall be an acceptable means of connection for both drainage, wet venting and stack venting arrangements.

P3005.1.3 Heel or side inlet quarter bends, venting. Heel inlet or side inlet quarter bends, or any arrangement of pipe and fittings producing a similar effect, shall be acceptable as a dry vent where the inlet is placed in a vertical position. The inlet is permitted to be placed in a horizontal position only where the entire fitting is part of a dry vent arrangement.

P3005.1 Installation of fittings. Changes in the direction of flow in drainage piping shall be made by fittings installed in an orientation that directs the drainage in the direction of flow. The following applications of fittings shall be prohibited:

1. A cast iron quarter bend or short sweep elbow smaller than 3 inches shall not be used for a vertical-to-horizontal or horizontal-to-horizontal change in direction of flow except where conveying flow from a single fixture drain.
2. A cast iron quarter bend or short sweep elbow that is 3 inches and larger shall not be used for a horizontal-to-horizontal change in direction of flow.
3. A plastic quarter bend elbow smaller than 3 inches, other than a long sweep quarter bend elbow, shall not be used for a vertical-to-horizontal or horizontal-to-horizontal change in direction of flow except where conveying flow from a single fixture drain.
4. A plastic quarter bend elbow that is 3 inches and larger, other than a long sweep quarter bend elbow, shall not be used for a horizontal-to-horizontal change in direction of flow.
5. A heel inlet of a quarter bend elbow shall not receive the discharge from any fixture where the elbow receives the discharge of a water closet and changes the flow direction from vertical-to-horizontal.

6. A low-heel inlet of a quarter bend elbow shall not be used as a connection for a wet vent or wet vented fixture where the elbow changes the flow direction from vertical-to-horizontal.
7. The side inlet of a quarter bend elbow shall not be used as a drainage connection where the elbow changes the flow direction from horizontal to horizontal.
8. A sanitary tee shall not be used in an orientation where the run of the tee is in the horizontal plane, or an angle less than 45 degrees thereto, except where the branch of the tee serves as a dry vent.
9. A double sanitary tee shall not receive the discharge of water closets through both branches nor shall it receive pumped waste flow in either branch.

Exception: Water closets shall be permitted to connect to both branches of a double sanitary tee provided that the horizontal developed length between the outlet of each water closet and the connection to the double sanitary tee is 18 inches (457 mm) or greater.

Reason: The existing sections and accompanying table are unclear as to how the table is to be used and exactly what the prohibitions of fitting uses are. The problem is that the table is too limiting and does not address the materials of the fittings which affect the pattern (short sweep versus quarter bend). Also, the table doesn't address the use of a drainage fitting where a branch is used as vent connection (e.g. sanitary tee). "Acceptable means of connection" is not mandatory language. The section proposed clearly indicates the specific prohibitions and uses in mandatory language.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 65 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP131-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3005.1-RP-HALL-PMGCAC

RP132 – 13

P3005.1.5

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Delete without substitution:

~~P3005.1.5 Dead ends.~~ ~~Dead ends shall be prohibited except where necessary to extend a cleanout or as an approved part of a rough-in more than 2 feet (610 mm) in length.~~

(Renumber subsequent sections)

Reason: The IPC no longer has this prohibition. It doesn't make any sense to have to remove unused drainage piping in a building. This would be extremely cost prohibitive for a slab on grade building or where piping is concealed by finished walls and ceilings. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 66 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP132-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3005.1.5-RP-HALL-PMGCAC

RP133 – 13

P3005.2, P3005.2.1, P3005.2.2, P3005.2.3, P3005.2.4, P3005.2.5, P3005.2.6, P3005.2.7, P3005.2.8, P3005.2.9, P3005.2.10, P3005.2.10.1 (New), P3005.2.10.2 (New), P3005.2.11

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Delete and substitute as follows:

~~P3005.2 Drainage pipe cleanouts.~~ Drainage pipe cleanouts shall comply with Sections P3005.2.1 through P3005.2.11.

~~Exception:~~ These provisions shall not apply to pressurized *building drains* and *building sewers* that convey the discharge of automatic pumping equipment to a gravity drainage system.

~~P3005.2.1 Materials.~~ Cleanouts shall be liquid and gas tight. Cleanout plugs shall be brass or plastic.

~~P3005.2.2 Spacing.~~ Cleanouts shall be installed not more than 100 feet (30 480 mm) apart in horizontal drainage lines measured from the upstream entrance of the cleanout.

~~P3005.2.3 Underground drainage cleanouts.~~ When installed in underground drains, cleanouts shall be extended vertically to or above finished grade either inside or outside the building.

~~P3005.2.4 Change of direction.~~ Cleanouts shall be installed at each fitting with a change of direction more than 45 degrees (0.79 rad) in the *building sewer*, *building drain* and horizontal waste or soil lines. Where more than one change of direction occurs in a run of piping, only one cleanout shall be required in each 40 feet (12 192 mm) of *developed length* of the drainage piping.

~~P3005.2.5 Accessibility.~~ Cleanouts shall be accessible. The clearance in front of cleanouts shall be not less than 18 inches (457 mm) on 3-inch (76 mm) and larger pipes, and not less than 12 inches (305 mm) on smaller pipes. Concealed cleanouts shall be provided with access of sufficient size to permit removal of the cleanout plug and rodding of the system. Cleanout plugs shall not be concealed by permanent finishing material.

~~P3005.2.6 Base of stacks.~~ A cleanout shall be provided at the base of each waste or soil stack.

~~P3005.2.7 Building drain and building sewer junction.~~ There shall be a cleanout near the junction of the *building drain* and *building sewer*. This cleanout shall be either inside or outside the building wall, provided that it is brought up to finish grade or to the lowest floor level. An *approved two-way cleanout* shall be permitted to serve as the required cleanout for both the *building drain* and the *building sewer*. The cleanout at the junction of the *building drain* and *building sewer* shall not be required where a cleanout on a 3-inch (76 mm) or larger diameter soil stack is located within a *developed length* of 10 feet (3048 mm) of the *building drain* and *building sewer* junction.

~~P3005.2.8 Direction of flow.~~ Cleanouts shall be installed so that the cleanout opens to allow cleaning in the direction of the flow of the drainage line.

~~P3005.2.9 Cleanout size.~~ Cleanouts shall be the same nominal size as the pipe they serve up to 4 inches (102 mm). For pipes larger than 4 inches (102 mm) nominal size, the size of the cleanout shall be not less than 4 inches (102 mm).

Exceptions:

1. ~~"P" trap connections with slip joints or ground joint connections, or stack cleanouts that are not more than one pipe diameter smaller than the drain served, shall be permitted.~~
2. ~~Cast-iron cleanouts sized in accordance with the referenced standards in Table P3002.3, ASTM A 74 for hub and spigot fittings or ASTM A 888 or CISPI 301 for hubless fittings.~~

~~**P3005.2.10 Cleanout equivalent.** A fixture trap or a fixture with integral trap, readily removable without disturbing concealed piping shall be acceptable as a cleanout equivalent.~~

~~**P3005.2.11 Connections to cleanouts prohibited.** Cleanout openings shall not be used for the installation of new fixtures except where approved and an acceptable alternate cleanout is provided.~~

P3005.2 Cleanouts required. Cleanouts shall be provided for drainage piping in accordance with Sections P3005.2.1 through P3005.2.11.

P3005.2.1 Horizontal drains and building drains. Horizontal drainage pipes in buildings shall have cleanouts located at intervals of not more than 100 feet (30 480 mm). Building drains shall have cleanouts located at intervals of not more than 100 feet (30 480 mm) except where manholes are used instead of cleanouts, the manholes shall be located at intervals of not more than 400 feet (122 m). The interval length shall be measured from the cleanout or manhole opening, along the developed length of the piping to the next drainage fitting providing access for cleaning, the end of the horizontal drain or the end of the building drain.

Exception: Horizontal fixture drain piping serving a nonremovable trap shall not be required to have a cleanout for the section of piping between the trap and the vent connection for such trap.

P3005.2.2 Building sewers. Building sewers smaller than 8 inches (203 mm) shall have cleanouts located at intervals of not more than 100 feet (30 480 mm). Building sewers 8 inches (203 mm) and larger shall have a manhole located not more than 200 feet (60 960 mm) from the junction of the building drain and building sewer and at intervals of not more than 400 feet (122 m). The interval length shall be measured from the cleanout or manhole opening, along the developed length of the piping to the next drainage fitting providing access for cleaning, a manhole or the end of the building sewer.

P3005.2.3 Building drain and building sewer junction. The junction of the building drain and the building sewer shall be served by a cleanout that is located at the junction or within 10 feet (3048 mm) developed length of piping upstream of the junction. For the requirements of this section, the removal of water closet shall not be required to provide cleanout access.

P3005.2.4 Changes of direction. Where a horizontal drainage pipe, a building drain or a building sewer has a change of horizontal direction greater than 45 degrees (0.79 rad), a cleanout shall be installed at the change of direction. Where more than one change of horizontal direction greater than 45 degrees (0.79 rad) occurs within 40 feet (12 192 mm) of developed length of piping, the cleanout installed at the first change of direction shall serve as the cleanout for all changes in direction within that 40 feet (12 192 mm) of developed length of piping.

P3005.2.5 Cleanout size. Cleanouts shall be the same size as the piping served by the cleanout except cleanouts for piping larger than 4 inches (102 mm) need not be larger than 4 inches (102 mm).

Exceptions:

1. A removable P- trap with slip or ground joint connections can serve as a cleanout for drain piping that is one size larger than the P-trap size.
2. Cleanouts located on stacks can be one size smaller than the stack size.
3. The size of cleanouts for cast-iron piping can be in accordance with the referenced standards for cast iron fittings as indicated in Table P3002.3.

P3005.2.6 Cleanout plugs. Cleanout plugs shall be brass, plastic or other approved materials. Cleanout plugs for borosilicate glass piping systems shall be of borosilicate glass. Brass cleanout plugs shall conform to ASTM A74 and shall be limited for use only on metallic piping systems. Plastic cleanout plugs shall conform to the referenced standards for plastic pipe fittings as indicated in Table P3002.3. Cleanout plugs shall have a raised square head, a countersunk square head or a countersunk slot head. Where a cleanout plug will have a trim cover screw installed into the plug, the plug shall be manufactured with a blind end threaded hole for such purpose.

P3005.2.7 Manholes. Manholes and manhole covers shall be of an approved type. Manholes located inside of a building shall have gas-tight covers that require tools for removal.

P3005.2.8 Installation arrangement. The installation arrangement of a cleanout shall enable cleaning of drainage piping only in the direction of drainage flow.

Exceptions:

1. Test tees serving as cleanouts.
2. A two-way cleanout installation that is approved for meeting the requirements of Section P3005.2.3.

P3005.2.9 Required clearance. Cleanouts for 6-inch (153 mm) and smaller piping shall be provided with a clearance of not less than 18 inches (457 mm) from, and perpendicular to, the face of the opening to any obstruction. Cleanouts for 8-inch (203 mm) and larger piping shall be provided with a clearance of not less than 36 inches (914 mm) from, and perpendicular to, the face of the opening to any obstruction.

P3005.2.10 Cleanout access. Required cleanouts shall not be installed in concealed locations. For the purposes of this section, concealed locations include, but are not limited to, the inside of plenums, within walls, within floor/ceiling assemblies, below grade and in crawl spaces where the height from the crawl space floor to the nearest obstruction along the path from the crawl space opening to the cleanout location is less than 24 inches (610 mm). Cleanouts with openings at a finished wall shall have the face of the opening located within 1-1/2 inches (38 mm) of the finished wall surface. Cleanouts located below grade shall be extended to grade level so that the top of the cleanout plug is at or above grade. A cleanout installed in a floor or walkway that will not have a trim cover installed shall have a countersunk plug installed so the top surface of the plug is flush with the finished surface of the floor or walkway.

P3005.2.10.1 Cleanout plug trim covers. Trim covers and access doors for cleanout plugs shall be designed for such purposes. Trim cover fasteners that thread into cleanout plugs shall be corrosion resistant. Cleanout plugs shall not be covered with mortar, plaster or any other permanent material.

P3005.2.10.2 Floor cleanout assemblies. Where it is necessary to protect a cleanout plug from the loads of vehicular traffic, cleanout assemblies in accordance with ASME A112.36.2M shall be installed.

P3005.2.11 Prohibited use. The use of a threaded cleanout opening to add a fixture or extend piping shall be prohibited except where another cleanout of equal size is installed with the required access and clearance.

Reason: Section P3005.2 is disorganized. For example, the second section, Section P3005.2.1, discusses requirements for cleanout plugs. The more significant sections of the section are scattered throughout the remainder of the section in a disorganized fashion. This section has been reorganized in a more logical format for ease of understanding. Note that the requirement for a cleanout at the base of stacks was deleted. The reason for this is that the requirement for cleanout access for horizontal drain pipes includes cleanouts that are placed in stacks. The stack cleanout is not for accessing the stack but just one way to get to the horizontal drain that the stack is connected to. Cleanouts at the base of the stack *can be* installed in the horizontal drain line. It is all about gaining access to the horizontal drain system and not for clearing obstructions in vertical sections of pipe (such as stacks). This proposal to the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application.

of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 67 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP133-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P3005.2-RP-HALL-PMGCAC

RP134 – 13

P3005.2.1

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

P3005.2.1 Materials. Cleanouts shall be liquid and gas tight. Cleanout plugs shall be ~~brass~~ copper alloy or plastic.

Reason: This proposal eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Cost Impact: The code change proposal will not increase the cost of construction.

RP134-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P3005.2.1-RP-FEEHAN.DOC

RP135 – 13

P3005.3.3.1

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

P3007.3.3.1 Materials. Pipe and fitting materials shall be constructed of ~~brass~~, copper, copper alloy, CPVC, ductile iron, PE, or PVC.

Reason: This proposal eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Cost Impact: The code change proposal will not increase the cost of construction.

RP135-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P3005.3.3.1-RP-FEEHAN.DOC

RP136 – 13

P3007.3.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee
(Dave.Hall@georgetown.org)

Revise as follows:

P3007.3.2 Sump pit. The sump pit shall be not less than 18 inches (457 mm) in diameter and not less than 24 inches (610 mm) in depth, unless otherwise approved. The pit shall be accessible and located such that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, concrete, steel, plastic or other approved materials. The pit bottom shall be solid and provide permanent support for the pump. The sump pit shall be fitted with a gas-tight removable cover that is installed above grade level or floor level, or not more than 2 inches (51 mm) below grade or floor level. The cover shall be adequate to support anticipated loads in the area of use. The sump pit shall be vented in accordance with Chapter 31.

Reason: The cover for sump pits needs to be located at or near grade. Otherwise, there is nothing to prevent an installation where the cover is located way below grade in a well such that in order to service the pump, someone has to stand on his head in order to just remove the sump pit cover. Requiring the cover to be not more than 2 inches below grade or floor level eliminates this problem. This change still allows the sump cover to be any dimension above grade.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X24 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP136-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3007.3.2-RP-HALL-PMGCAC

RP137 – 13

P3008.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P3008.1 Sewage backflow. Where plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in the *public sewer*, such fixtures shall be protected by a backwater valve installed in the *building drain*, or horizontal *branch* serving such fixtures. Plumbing fixtures installed on a floor with a finished floor elevation above the elevation of the manhole cover of the next upstream manhole in the *public sewer* shall not discharge through a backwater valve.

Exception: In existing buildings, fixtures above the elevation of the manhole cover of the next upstream manhole in the *public sewer* shall not be prohibited from discharging through a backwater valve.

Reason: The addition of this exception was approved for the 2015 IPC. Building owners who have experienced a sewage backup in a building that was caused by problems in an existing public sewer main should be allowed to install a backwater valve in the building drain or sewer to protect their property. Having a basement full of raw sewage is an experience that no one wants to repeat. The requirement that only those fixtures that are on a floor elevation below the top of the next upstream manhole in the public sewer are allowed to discharge through the BWV, places a significant impediment for the building owner to protect his property against an event over which currently he has no control. For example, consider an existing two story hotel with multiple stacks connecting to a building drain. The fixtures on the lower floor are connected to the same building drain. The existing code language would require that all of the stacks be rerouted to connect downstream of a backwater valve installed to serve only the fixtures on the lower floor level. This would be cost prohibitive to do. The simpler solution would be to just install the BWV in the building drain or sewer. However, as the code is currently written, this is prohibited. The main reason why the code prohibits this is so that the discharge from upper floors does not flood the lower floor when the building sewer is backed up. If the BWV serves only the lower elevation fixtures, it would be closed when the sewer backed up and any discharge from higher elevation fixtures could not flow out of the lower elevation fixtures. BWV's are not known to create problems in a building sewer; rather, they provide protection from sewage backups and provide peace of mind for the building owners and occupants. Although the current code requirement can be easily accomplished in new construction, it is a hardship for those building owners who need protection for existing buildings. Imagine the work that would be necessary to separate the building drain into different sub building drains in an existing building with piping under slab floors.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X25 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP137-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3008.1-RP-HALL-PMGCAC

RP138 – 13

P3009.13.2, P3009.13.2.1 (New)

Proponent: Jeremy Brown, NSF International (brown@nsf.org)

Revise as follows:

P3009.13.2 Disinfection and treatment. ~~Gray water shall be disinfected by an approved method that employs one or more disinfectants such as chlorine, iodine or ozone that are recommended for use with the pipes, fittings and equipment by the manufacturer of the pipes, fittings and equipment. Nonpotable water collected onsite for reuse shall be disinfected, treated or both to provide the quality of water needed for the intended end use application. Where the intended end use application does not have requirements for the quality of water, disinfection and treatment of water collected onsite for reuse shall not be required. Onsite collected nonpotable water that contains untreated gray water and is collected in reservoirs shall be retained for not more than 24 hours.~~

P3009.13.2.1 Gray water used for fixture flushing. Gray water used for flushing water closets and urinals shall be disinfected and treated by an on-site water reuse treatment system complying with NSF 350.

Add new standard to Chapter 44:

NSF

350-11 Onsite Residential and Commercial Water Reuse Treatment Systems

Reason: The proposed requirements were approved for the 2015 IPC. In addition to microbiological contaminants that need disinfection, gray water contains organic compounds, suspended solids, turbidity, surfactants, and other contaminants that have the potential to accumulate and negatively impact the functioning of water closets and urinals if not treated properly. NSF/ANSI-350 *Onsite Residential and Commercial Water Reuse Treatment Systems* establishes the minimum materials, design and construction, and performance requirements for systems that disinfect and treat gray water for non-potable reuse applications, including flushing water for closets and urinals. Rigorous testing with gray water as defined by the standard ensures the treatment systems meet strict effluent quality requirements suitable for reuse applications, along with providing protection of public health and the environment. NSF 350 is currently referenced in the IgCC and IAPMO Green Supplement.

Cost Impact: Because on-site water reuse treatment systems are not required, this code change proposal will not increase the cost of construction.

Analysis: Standard NSF 350 is currently in the 2012 IgCC.

RP138-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P3009.13.2-RP-BROWN.DOC

RP139 – 13

P3009.13.4

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee
(Dave.Hall@georgetown.org)

Revise as follows:

~~P3009.13.4 Coloring.~~ ~~The gray water shall be dyed blue or green with a food grade vegetable dye before such water is supplied to the fixtures.~~

Reason: This deletion of language was approved for the 2015 IPC. This is an archaic requirement that dates back to when gray water was first considered for flushing water closets and urinals. The reason for abandoning the practice was because the dye stained building components when there was splashing of the dyed gray water. The means of identifying gray water is the purple coloring of the piping system.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X32 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP139-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3009.13.4-RP-HALL-PMGCAC

RP140 – 13

P3009.19

Proponent: Gary Kozan, CPD, Ridgeway Plumbing, representing Florida Association of Plumbing Heating Cooling Contractors (garyk@ridgewayplumbing.com)

Revise as follows:

P3009.19 Joints between drainage piping and water closets. Joints between drainage piping and water closets or similar fixtures shall be made by means of a closet flange or a waste connector and sealing gasket compatible with the drainage system material, securely fastened to a structurally firm base. ~~The inside diameter of the drainage pipe shall not be used as a socket fitting for a 4-inch by 3-inch (102 mm by 76 mm) closet flange.~~ The joint shall be bolted, with an approved gasket flange to fixture connection complying with ASME A112.4.3 or setting compound between the fixture and the closet flange or waste connector and sealing gasket. The waste connector and sealing gasket joint shall comply with the joint-tightness test of ASME A112.4.3 and shall be installed in accordance with the manufacturer's installation instructions.

Reason: For over forty years, and with tens of millions installed, inside-fit closet flanges have a proven track record as the best deterrent to leaking or rocking toilets. Inside-fit flanges are particularly useful on slab-on-grade construction, as they do not require an annular space around the closet stub. The flange can be set at the time of WC installation, eliminating the guesswork of determining finished floor.

Inside-fit flanges are manufactured with a carefully designed taper to compensate for any variations in the pipe ID. They do not leak. They do not fail. In many parts of the country, the current IRC prohibition has been largely ignored because it makes no sense and is actually counterproductive to proper water closet installations.

The other model plumbing code (UPC) does not prohibit inside-fit flanges. Neither does the IPC. In fact, an attempt to expand the prohibition of inside flanges into the IPC was roundly rejected at last year's final action hearing. Eliminating this unreasonable prohibition will simplify WC installations, eliminate leaks, and improve the overall quality of the plumbing system.

Cost Impact: This code change proposal will not increase the cost of construction.

RP140-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P3009.19-RP-KOZAN.DOC

RP141 – 13

P3010 (New), Chapter 44

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Add new text as follows:

SECTION P3010 **REPLACEMENT OF UNDERGROUND SEWERS** **BY PIPE BURSTING METHODS**

P3010.1 General. This section shall govern the replacement of existing building sewer piping by pipe-bursting methods.

P3010.2 Applicability. The replacement of building sewer piping by pipe bursting methods shall be limited to gravity drainage piping of sizes 6 inches and smaller. The replacement piping shall be of the same nominal size as the existing piping.

P3010.3 Pre-installation inspection. The existing piping sections to be replaced shall be inspected internally by a recorded video camera survey. The survey shall include notations of the position of cleanouts and the depth of connections to the existing piping.

P3010.4 Pipe. The replacement piping shall be of extra high molecular weight PE3408 material and shall be manufactured with an SDR of 17 and in compliance with ASTM F 714.

P3010.5 Pipe fittings. Pipe fittings to be connected to the replacement piping shall be of extra high molecular weight PE3408 material and shall be manufactured with an SDR of 17 and in compliance with ASTM D2683.

P3010.6 Cleanouts. Where the existing building sewer did not have cleanouts meeting the requirements of this code, cleanout fittings shall be installed as required by this code.

P3010.7 Post-installation inspection. The completed replacement piping section shall be inspected internally by a recorded video camera survey. The video survey shall be reviewed and approved by the code official prior to pressure testing of the replacement piping system.

P3010.8 Pressure testing. The replacement piping system as well as the connections to the replacement piping shall be tested in accordance with Section P2503.4.

Add standards to Chapter 44 as follows:

ASTM F 714-06a Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) based on Outside Diameter.

D2683-04 Standard Specification for Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing.

Reason: The IRC lacks coverage concerning the replacement of sewer systems by pipe bursting methods. These methods are being widely used throughout the country. Proper guidance concerning this type of replacement provides additional value to the code. This proposal to the 2015 IPC was Approved as Modified by Public Comment. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and

multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 69 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP141-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3010 (NEW)-RP-HALL-PMGCAC

RP142 – 13

P3101.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P3101.2 Trap seal protection. The plumbing system shall be provided with a system of vent piping that will ~~permit~~ allow the admission or emission of air so that the liquid seal of any fixture trap shall not be subjected to a ~~pneumatic~~ pressure differential of more than 1 inch of water column (249 Pa).

Reason: The term “pneumatic” is confusing word in this section’s context. Pressure is pressure whether it is water or air. This proposal to the 2015 IPC was Approved as Submitted.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 70 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP142-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3101.2-RP-HALL-PMGCAC

RP143 – 13

P3103.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P3103.1 Roof extension. Open vent pipes that extend through a roof shall be terminated not less than [NUMBER] inches (mm) above the roof or 6 inches (152 mm) above the anticipated snow accumulation, whichever is greater, ~~except that~~. Where a roof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purposes ~~for any purpose other than weather protection~~, the open vent pipes ~~extensions~~ shall terminate not less than 7 feet (2134 mm) above the roof.

Reason: This revised language was approved for the 2015 IPC. The current language literally states that if a roof is to be used for anything other than weather protection, then vent pipes must be extended 7 feet above the roof. If there is equipment on the roof (HVAC units, grease duct fans, etc.), the roof is being used for another purpose, but, that is not the intent of the section. The intent of the section is that when the roof can be “normally occupied” such as where the roof is being used as an assembly area, a promenade, observation deck or sunbathing deck, that is when the vent pipes must be extended. The revised language makes the intent of the section more clear.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X26 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP143-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3103.1-RP-HALL-PMGCAC

RP144 – 13

P3103.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P3103.2 Frost closure. Where the 97.5-percent value for outside design temperature is 0°F (-18°C) or less, ~~every~~ vent extensions through a roof or wall shall be not less than 3 inches (76 mm) in diameter. Any increase in the size of the vent shall be made not less than 1 foot inside the structure at a point not less than 1 foot (305 mm) below the roof or inside the wall thermal envelope of the building.

Reason: This revised language was approved for the 2015 IPC. Requiring that the size transition occur at least 1 foot below the roof accomplishes nothing if it is just as cold below the roof as it is outdoors. The intent is to prevent frost blockage in the vent by making the part that is exposed to freezing temperatures at least 3 inches in diameter. The part of the vent that is less than 3 inches in size must be located in an area that stays above freezing. In most attics, the attic temperatures are very near the outdoor temperature, therefore, putting the size transition in the cold attic will subject the smaller pipe to freezing temperatures which is exactly what this section intended to avoid. The transition from a smaller size vent pipe to the 3 inch (or larger size) needs to occur at least one foot inside of the building's thermal envelope in order to avoid frost blockage.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X27 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP144-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3103.2-RP-HALL-PMGCAC

RP145 – 13

P3111.2.2

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

P3111.2.2 Connection. ~~The combination waste and vent pipe shall connect to a horizontal drain that is vented or a vent shall connect to the combination waste and vent. The vent connecting to the combination waste and vent pipe shall extend vertically not less than 6 inches (152 mm) above the flood level rim of the highest fixture being vented before offsetting horizontally.~~ The combination waste and vent system shall be provided with a dry vent connected at any point within the system or the system shall connect to a horizontal drain that serves vented fixtures located on the same floor. Combination waste and vent systems connecting to building drains receiving only the discharge from a one or more stacks shall be provided with a dry vent. The vent connection to the combination waste and vent pipe shall extend vertically to a point not less than 6 inches (152 mm) above the flood level rim of the highest fixture being vented before offsetting horizontally.

Reason: The current section language is not clear about what type of a vent must connect to a combination waste and vent system. The section also did not provide coverage for where only stacks connected to a building drain that had a combination waste and vent system connected to it. The majority of this language comes from the IPC.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 71 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP145-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3111.2.2-RP-HALL-PMGCAC

RP146 – 13

P3114.5

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P3114.5 Access and ventilation. Access shall be provided to all air admittance valves. ~~The~~ Such valves shall be installed in a locatedtion ~~within a ventilated space~~ that allows air to enter the valve.

Reason: This revised language was approved for the 2015 IPC. The question is frequently raised: "What constitutes a ventilated space?" The proposed language simply requires the AAVs to be located where air can enter the valve. For example, an AAV installed in wall cavity would require some means to allow air to enter the cavity.

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Cost Impact: The code change proposal will not increase the cost of construction.

RP146-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3114.5-RP-HALL-PMGCAC

RP147 – 13

P3114.8

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P3114.8 Prohibited installations. *Air admittance valves without an engineered design* shall not be used to vent sumps or tanks except where the vent system for the sump or tank has been designed by an engineer. of any type.

Reason: The “without an engineered design” was an attempt by the AAV manufacturers to allow AAVs to be used on sumps and tanks if special piping arrangements were used to “prevent” a positive pressure condition from occurring. The code does not address these special piping arrangements and the intent was to have an engineer become involved to design the special venting arrangement. A committee modification made on-the-fly, got the wording wrong. The revised wording allows the use of an AAV in sump and tank vent systems that are designed by an engineer.

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Cost Impact: The code change proposal will not increase the cost of construction.

RP147-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3114.8-RP-HALL-PMGCAC

RP148 – 13

P3201.1

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting representing the Copper Development Association (penniefeehan@me.com)

Revise as follows:

P3201.1 Design of traps. Traps shall be of standard design, shall have smooth uniform internal waterways, shall be self cleaning and shall not have interior partitions except where integral with the fixture. Traps shall be constructed of lead, cast iron, ~~cast or drawn brass~~ copper and copper alloy or approved plastic. ~~Tubular brass~~ Copper or copper alloy traps shall be not less than No. 20 gage (0.8 mm) thickness. Solid connections, slip joints and couplings shall be permitted to be used on the trap inlet, trap outlet, or within the trap seal. Slip joints shall be accessible.

Reason: This proposal eliminates outdated language and provides the appropriate terminology and correct information to the end user.

Cost Impact: The code change proposal will not increase the cost of construction.

RP148-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P3201.1-RP-FEEHAN.DOC

RP149 – 13

P2704.1, P2727.2, P2717.3, P3002.1, P3201.6, P3201.6.1 (New), P3005.2.9, P3005.2.10, P3102.1

Proponent: Ron George, Certified Plumbing Designer, President, Plumb-Tech Design & Consulting Services LLC. (Ron@Plumb-TechLLC.com)

Revise as follows:

P2704.1 General. Slip joints shall be made with an *approved* elastomeric gasket and shall be installed only on the inlet and outlet of an inline sanitary waste valve, a trap outlet, a trap inlet and within the trap seal. Fixtures with concealed slip-joint connections shall be provided with an access panel or utility space not less than 12 inches (305 mm) in its smallest dimension or other *approved* arrangement so as to provide access to the slip connections for inspection and repair.

P2717.2 Sink and dishwasher. A sink and dishwasher are permitted to discharge through a single 1-1/2 inch (38 mm) inline sanitary waste valve in accordance with Section P3201.6.1 or a trap. The discharge pipe from the dishwasher shall be increased to not less than 3/4 inch (19 mm) in diameter and shall be connected with a wye fitting to the sink tailpiece. The dishwasher waste line shall rise and be securely fastened to the underside of the counter before connecting to the sink tailpiece.

P2717.3 Sink, dishwasher and food grinder. The combined discharge from a sink, dishwasher, and waste grinder is permitted to discharge through a single 1-1/2 inch (38.1 mm) inline sanitary waste valve in accordance with Section P3201.6.1 or a trap. The discharge pipe from the dishwasher shall be increased to not less than 3/4 inch (19 mm) in diameter and shall connect with a wye fitting between the discharge of the food-waste grinder and the trap inlet, the inline sanitary waste valve or to the head of the food grinder. The dishwasher waste line shall rise and be securely fastened to the underside of the counter before connecting to the sink tail piece or the food grinder.

P3002.3.1 Drainage. Drainage fittings shall have a smooth interior waterway of the same diameter as the piping served. All fittings shall conform to the type of pipe used. Drainage fittings shall have no ledges, shoulders or reductions which can retard or obstruct drainage flow in the piping. Threaded drainage pipe fittings shall be of the recessed drainage type, black or galvanized. Drainage fittings shall be designed to maintain one-fourth unit vertical in 12 units horizontal (2-percent slope) grade. This section shall not be applicable to tubular waste fittings used to convey vertical flow upstream of an inline sanitary waste valve in accordance with Section P3201.6.1 or the trap seal liquid level of a fixture trap.

P3101.2.1 Venting required. Every *trap* and trapped fixture shall be vented in accordance with one of the venting methods specified in this chapter. Inline sanitary waste valves in accordance with Section P3201.6.1 shall not be required to be vented.

P3201.6 Number of fixtures per A trap or inline sanitary waste valve required for each fixture.

Each plumbing fixture shall independently discharge to an inline sanitary waste valve in accordance with Section P3201.6.1 or to a ~~trap, be separately trapped by a water seal trap~~. The vertical distance from the fixture outlet to the *trap* weir shall not exceed 24 inches (610 mm) and the horizontal distance shall not exceed 30 inches (762 mm) measured from the center line of the fixture outlet to the centerline of the inlet of the *trap*. The height of a clothes washer standpipe above a *trap* shall conform to Section P2706.2. Fixtures shall not be double trapped.

Exceptions:

1. Fixtures that have integral traps.
2. A single trap shall be permitted to serve two or three like fixtures limited to kitchen sinks, laundry tubs and lavatories. Such fixtures shall be adjacent to each other and located in the

same room with a continuous waste arrangement. The trap shall be installed at the center fixture where three fixtures are installed. Common trapped fixture outlets shall be not more than 30 inches (762 mm) apart.

3. Connection of a laundry tray waste line into a standpipe for the automatic clothes-washer drain shall be permitted in accordance with Section P2706.2.1.

P3201.6.1 Inline sanitary waste valves. Inline sanitary waste valves shall comply with ASME A112.18.8. Such valves shall be installed only on fixture outlets having 1-1/4 inch (31.8mm) or 1-1/2 inch (38.1 mm) outside diameter tubular waste piping. Valves conveying the waste from a food waste disposer shall be installed only in a vertical orientation. Such valves shall not be installed on the outlet of a urinal. The valves shall be installed in a vertical orientation or a horizontal orientation. Where installed in a horizontal orientation, the valve body shall be oriented with the ribs on the exterior of the valve body located on the bottom of the valve. The valves shall be accessible.

P3005.2.9 Cleanout size. Cleanouts shall be the same nominal size as the pipe they serve up to 4 inches (102 mm). For pipes larger than 4 inches (102 mm) nominal size, the size of the cleanout shall be not less than 4 inches (102 mm).

Exceptions:

1. Inline sanitary waste valves in accordance with Section P3201.6.1, "P" trap connections with slip joints or ground joint connections, or stack cleanouts that are not more than one pipe diameter smaller than the drain served, shall be permitted.
2. Cast-iron cleanouts sized in accordance with the referenced standards in Table P3002.3, ASTM A 74 for hub and spigot fittings or ASTM A 888 or CISPI 301 for hubless fittings.

P3005.2.10 Cleanout equivalent. An inline sanitary waste valve in accordance with Section P3201.6.1, a fixture trap or a fixture with integral trap, readily removable without disturbing concealed piping shall be acceptable as a cleanout equivalent.

P3102.1 Required vent extension. The vent system serving each *building drain* shall have at least one vent pipe that extends to the outdoors. Sanitary drainage systems that do not have traps and have only inline sanitary waste valves in accordance with Section P3201.6.1 shall be provided with at least one vent.

Add new standard to Chapter 44 as follows:

ASME

A112.18.8–2009 In-Line Sanitary Waste Valves for Plumbing Drainage

Reason: There is a new ASME standard ASME A112.18.8 that has been developed for sanitary waste valves and there are products that have been tested to meet or exceed the standard's requirements. Last year elastomeric trap seal protection devices were added to the IPC. This device is similar, but limited to tubular drains in lieu of a p-trap. It is not subject to floor wax and debris that a floor drain will receive. The key sections of this proposal are Section P3201.6 and new Section P3201.6.1 that add an alternative to liquid seal traps. All other sections being modified are in support of adding this alternative to the code. Inline sanitary waste valves can only be used on fixtures that have 1-1/4 inch or 1-1/2 inch OD tubular waste outlets from fixtures, so their application is generally limited to sinks, lavatories and bathtubs. The testing requirements of the standard for inline sanitary waste valves are stringent. In many applications, inline sanitary waste valves offer better, more reliable protection (against sewer gas coming out of a fixture) than a liquid seal trap.

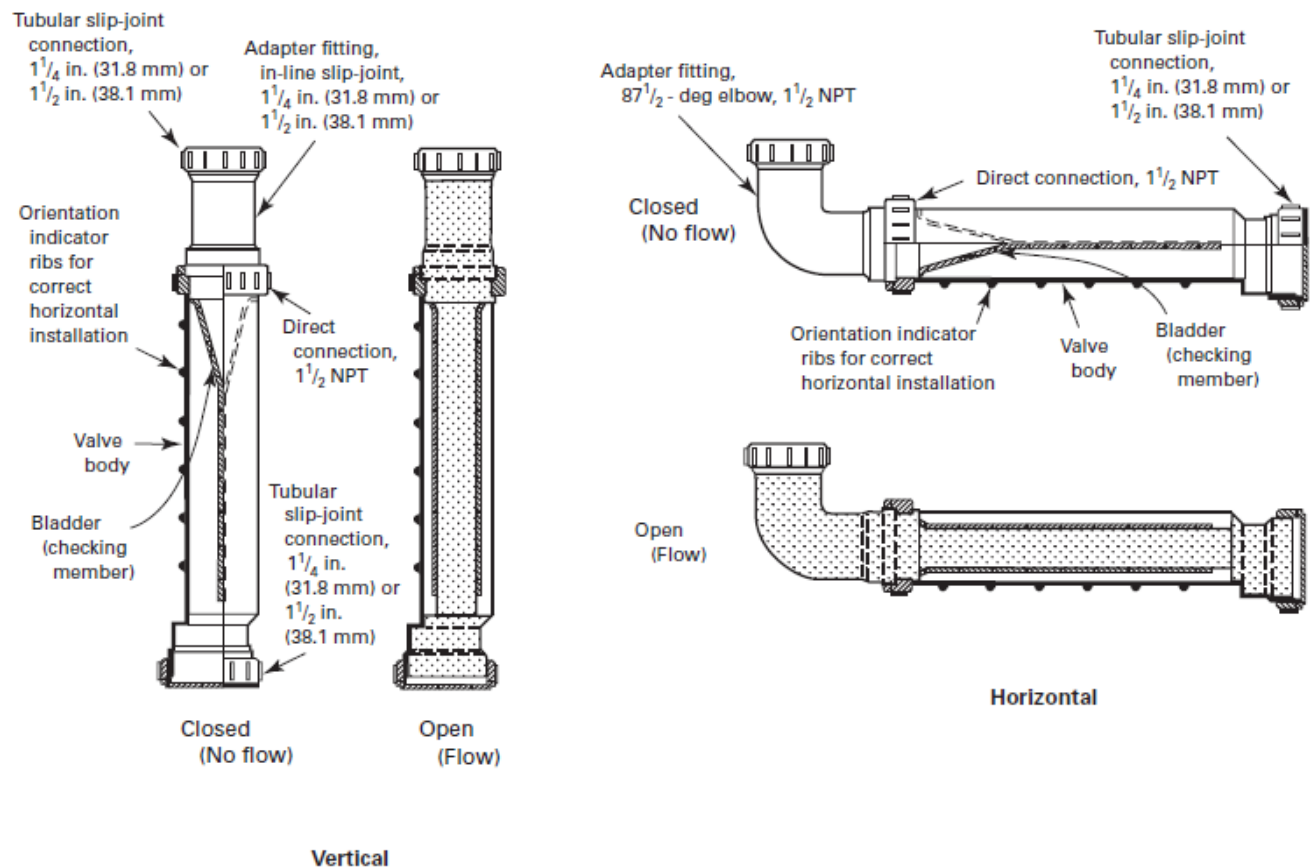
In-Line sanitary waste valves now have an Industry standard ASME A112.18.8–2009 titled: "In-Line Sanitary Waste Valves for Plumbing Drainage". These devices have been tested and certified by third party testing labs and they have been proven over many years of use to provide a reliable gas-tight seal when used in lieu of a p-trap. They provide a seal which is not dependent on operating conditions and is not affected by evaporation or siphonage. These valves are mainly used in situations where sanitary fixtures see only occasional use, where freezing conditions, low humidity, persistent high temperature conditions, or where there are limited or confined space conditions. Examples include guest bathrooms, seasonal occupancy dwellings, manufactured housing and in remote cabins. Other common uses for this type of device are in Recreational Vehicles and boats for the freeze resistance and splash resistance. The performance requirements for the device are covered within the ASME A112.18.8 ANSI approved Standard, which includes a gas-tight seal test, flow rate test, long term cycling tests, a grease or lard test and many other chemical resistance and solids tests. These valves perform in a similar manner to a trap seal protection valve. Elastomeric type devices in the drainage system are already approved in the International Plumbing Code. In 2012 when the Trap Seal Protection Devices

which comply with ASSE 1072 were approved for the 2015 International Plumbing Code at the final action hearings in Portland in 2012. These devices are very similar to trap seal protection valves except the ASME A112.18.8–2009 In-Line Sanitary Waste Valves for Plumbing Drainage limits their use to installations where a 1-1/4 inch or 1-1/2" tubular p-traps would normally be permitted. These devices are not intended for use on floor drains, water closets or similar fixtures.

The scope of the ASME A112.18.8 Standard establishes minimum requirements for materials in the construction of sanitary waste valves for use as an alternate to tubular p-traps, and prescribes minimum test requirements for the performance of the valve, together with methods of marking and identification. The ASME A112.18.8 Standard does not define the requirements for products to be used in urinals or water closets. It is not intended that products meeting this Standard will be used in a urinal or water closet.

ASME A112.18.8-2009

**Fig. 1 Typical Cross-Section
(For Illustrative Purposes Only)**



Testing includes the following tests:

- 3.1 Waterway Flow Rate
- 3.2 One-Way Sealing Performance of the Valve
- 3.3 Airway Flow Rate
- 3.4 Recovery From an Excess Back Pressure (Inversion) Condition
- 3.5 Leak Tightness
- 3.6 Thermal Cycling
- 3.7 Cyclic Fatigue
- 3.8 Resistance to Household Substances
- 3.9 Resistance to Chemicals and Solvents
- 3.10 Drop Test
- 3.11 Life Cycle

Section 4 of the Standard also covers Marking and Identification Instructions.

The valve shall be permanently and legibly marked with the following:

- (a) manufacturer's name
- (b) product name/brand name
- (c) nominal size of inlet and outlet
- (d) date of manufacture
- (e) predominant material
- (f) direction of flow indicator
- (g) indication of the orientation of the installation of the device

4.2 Instructions

The manufacturer shall provide instructions on packaging or accompanying literature indicating, where appropriate, both of the following:

- (a) the orientation of the installation of the device
- (b) limitations on the use and type of drain-cleaning chemicals and tools

TECHNICAL DESIGN GUIDE



Sanitary Waste Valve

- A HYGIENIC ALTERNATIVE TO CONVENTIONAL TRAPS

HepvO is a self sealing valve designed to close the waste connection below a sanitary fixture to prevent the escape of foul sewer air into the dwelling.

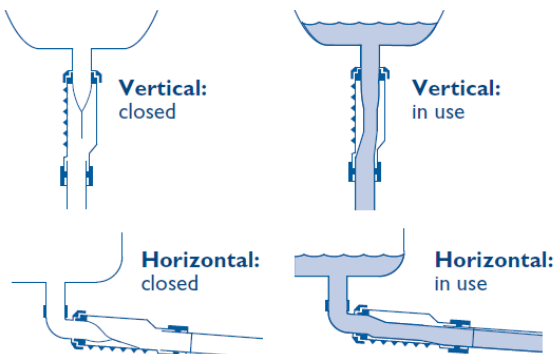
HepvO unlike conventional waste traps, does not rely on trapped water to create a seal. Water seals are prone to failure by Evaporation, Siphonage and other mechanisms. Instead, HepvO uses a self sealing membrane which performs the same function as a water seal trap but without the risk of depletion or freezing.

The HepvO Sanitary Waste Valve means enhanced plumbing design and system efficiency, without compromising performance or risking the escape of foul air into the living space from the drain or sewer.

HepvO - Operation

HepvO a Barrier between Living Space and the Drainage System.

Foul sewer gas must be prevented from entering the building. The loss of the water seal in a conventional trap can cause gurgling noises, objectionable smells, allow insect ingress, and has the potential to allow the spread of health hazards (such as SARS).



The HepvO Sanitary Waste Valve opens under the water pressure of a fixture emptying and closes to form a tight seal after the fixture has discharged.



HepvO - Product Features

- Dry Seal Technology - cannot fail by evaporation or siphonage
- Admits Air - Auxiliary Venting Not Required
- One Way Valve - Prevents Foul Odors

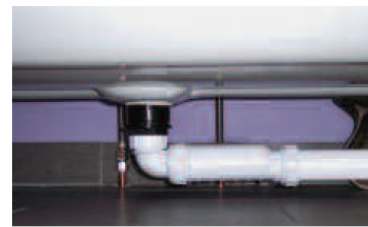
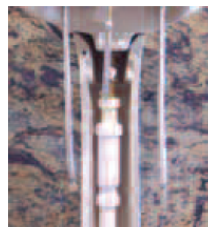
HepvO will out-perform a conventional trap by preventing the escape of foul air under excessive operating conditions up to 10 times greater than those normally experienced in a correctly designed Soil & Waste system. By comparison, conventional traps allow foul sewer air to bubble-through the seal at relatively low positive pressures.

In addition because HepvO does not trap water that may contain food scraps or other waste, microbiological growth of a fungal, bacterial or viral nature is less likely.

HepvO - Applications

- | | |
|------------------------------------|--------------------------------|
| ● Lavatories | ● Urinal (Vertical Only)* |
| ● Bath Tubs | ● Air Conditioning Condensate* |
| ● Sink | ● Overflow |
| ● Bidet | ● Dishwasher |
| ● Washing Machine | ● Shower |
| ● Garbage Disposal (Vertical Only) | |

* applications outside the scope of the ASME/ANSI A112.18.8 Standard and approval

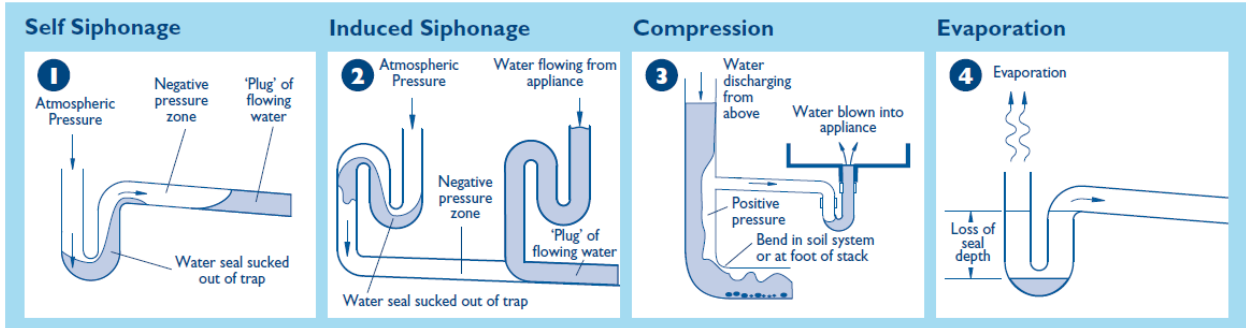


Minimizes the space required behind a lavatory or beneath a bath tub/shower tray.

HepvO - Design and Performance

The PROBLEM: Conventional waste traps work by having a water seal to prevent foul odors entering buildings. However a water trap can fail under a number of conditions.

The following diagrams show several problems that result in loss of water seal, gurgling and foul smells.

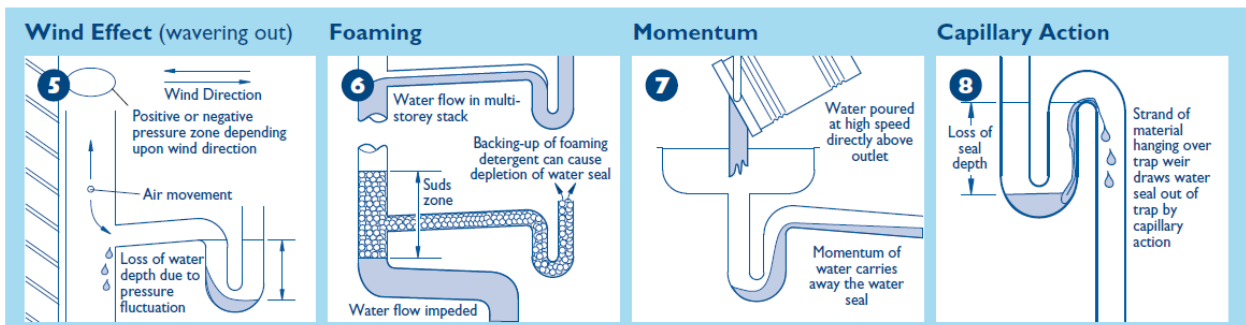


Self Siphonage: water flowing down the discharge pipe draws the water from the trap.

Induced Siphonage: the water seal is drawn out of the trap by water discharging from a fixture downstream (e.g. washing machine).

Compression: water is pushed out of the trap by a positive pressure caused by discharging of fixtures located above (e.g. WC).

Evaporation: water in the trap evaporates during periods of non-use (e.g. during vacation or when fixtures are not being used).

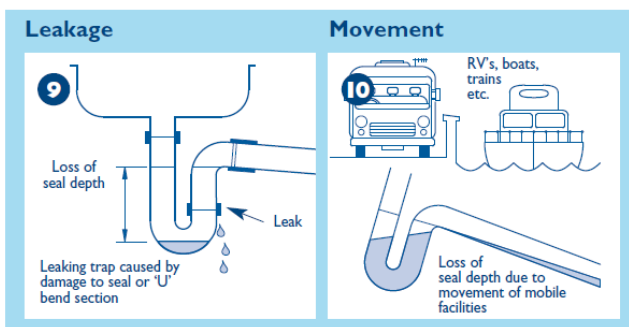


Wind Effect: air movement across the top of the Soil & Vent Pipe causes reciprocation of water in the trap and potential for loss of seal depth.

Foaming: agitation of waste water containing detergents in the Soil and Vent pipe creates foaming which pushes water out of the trap.

Momentum: waste water from a bowl or pail poured directly in to the waste outlet carries water out of the trap due to speed of discharge. This is also common with modern, funnel shaped basin designs.

Capillary Action: fibrous material retained in the trap and hanging over the weir draws water out of the trap.



Leakage: badly fitting or loose components and/or damaged seals can allow water to leak causing loss of seal depth.

Movement: In mobile facilities such as RV's and boats movement can cause potential for loss of water in the trap.

HepvO - The SOLUTION

When installed in accordance with manufacturer's instructions the unique HepvO Sanitary Waste Valve is the solution to all these problems.

HepvO provides a constant seal against sewer gas ingress, which is maintained under all normal operating conditions.

HepvO Sanitary Waste Valve actively eliminates negative pressure within the waste system by opening and allowing in fresh air until a state of equilibrium with atmosphere is reached.

HepvO Sanitary Waste Valve resists blockages, prevents nasty smells, gurgling sounds and stagnant water under all circumstances.

Hep_vO - Installation Benefits

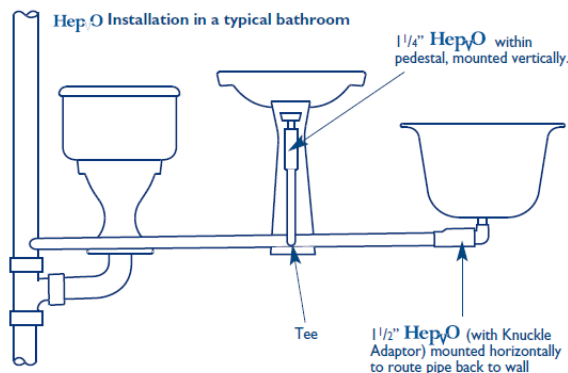
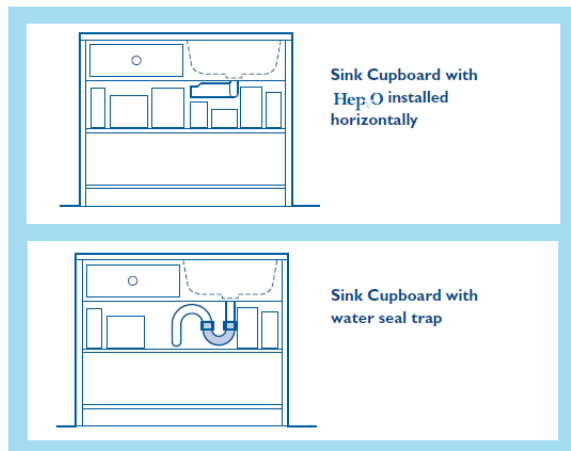
Hep_vO is a new concept in the prevention of foul air escaping into the building while actively eliminating negative pressure in soil and waste installations. It allows the designer greater flexibility on fixture and venting installation without compromising the performance of their sanitary seals.

System Simplification - Design Freedom and Economic Benefits

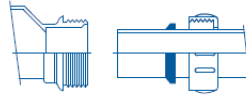
Regulations for waste system design set limits on length and slope of pipes and the number of fixtures which can be connected to a waste pipe in order to keep pressure fluctuations to a minimum. This may be rectified by the incorporation of vent pipes at appropriate design locations.

The incorporation of Hep_vO provides a good sanitary system offering minimum resistance to flow.

- 1 Compact design, flexibility of location and ability to actively eliminate negative pressure improves system performance.
- 2 A typical fixture will drain more quickly when a Hep_vO is installed compared to a p-trap installation. This helps keep downstream piping cleaner and reduces maintenance requirements.
- 3 There is no trap to vent distance limitations based on the slope of the pipe and the elevation of the vent connection.
- 4 Where necessary tight radius bends can be used, without fear of siphonage or compression.



Hep_vO - Installation & Maintenance



Capnut and sealing cone on pipe end ready for insertion of pipe into compression socket.

INSTALLATION

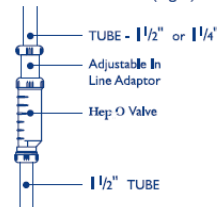
- 1 Cut the tube to length, allowing for the full compression socket depth, (preferably using an appropriate tube cutter).
- 2 If using plastic tube remove any loose material from the end. If using metallic tube remove any 'burr', and file if necessary to remove any external sharp edges. Mark the socket depth on the tube, and check that the tube section to be joined is free of any surface damage which may affect the joint seal.
- 3 Unscrew the cap from the outlet/inlet adaptor and slide the cap and rubber seal onto the tube.
- 4 Insert the tube end fully into the socket.
- 5 Slide the rubber seal and screwed cap up against the face of the socket, and tighten the cap by hand, (check that the cap is square to the body and does not 'cross-thread'), hand tight should be adequate to form a proper seal.
- 6 Threaded connections can be made to the inlet or outlet of the Hep_vO valve. At the outlet it is first necessary to remove the cap and rubber seal. If making connections to threaded components that do not have an integral seal (for example connection to DWV adaptors) PTFE/TEFLON tape should be applied to the thread prior to assembly.

MAINTENANCE

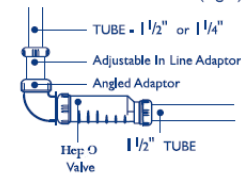
If mechanical devices such as spiral cables, rippers or water jetters are required to clear blockages in the waste system, the Hep_vO valve must be removed first.

It is good practice to rinse the Hep_vO valve with a little clean water before replacing it in the system.

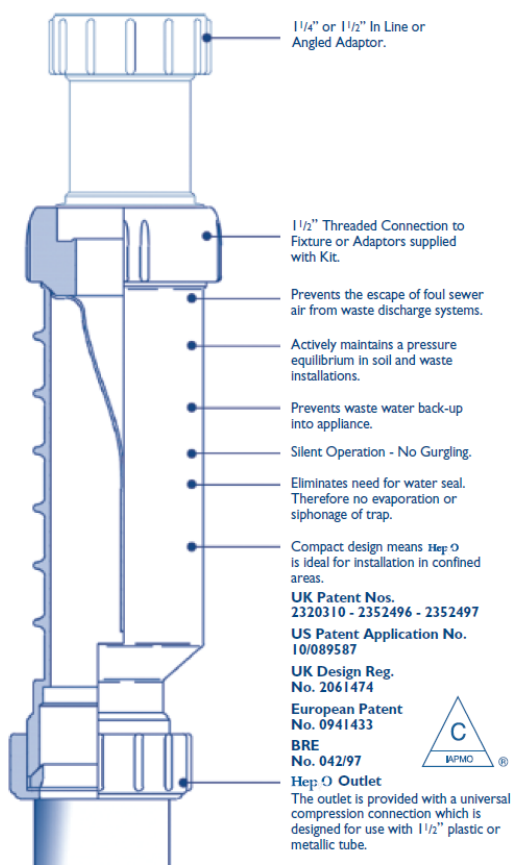
VERTICAL (Fig 1)



HORIZONTAL (Fig 2)



Hep_vO Valve Components



For further information on Hep_vO
and other Hepworth products visit:
www.hepworth.co.uk

For all Hep_vO enquiries email:
sales@a-s-m.com

Hepworth 
PLASTICS

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Our policy is one of constant development.
Whilst this publication is accurate at the date of printing, specification/approvals
may be changed in the interest of continued improvement.

Frequently Asked Questions

1 Is Hep_vO used in addition to a conventional trap?

NO, unlike other products which prevent foul odors entering the living space, Hep_vO is used instead of a conventional water-seal trap.

2 Will I still need to install auxiliary venting on waste pipe branches?

NO, Hep_vO acts as a highly effective local air admittance device, removing the need for secondary venting.

3 Can I use acidic drain cleaning chemicals?

YES, the Hep_vO valve is manufactured from a highly inert material and has passed extensive testing with a very wide range of chemicals including both acid and alkaline products.

4 Do I still need to connect each fixture on its own dedicated waste branch?

NO, Hep_vO prevents induced siphonage between adjacent fixture traps so it is now possible to make multiple connections on the same branch. This can save yards of tubing or piping and gives great flexibility for locating fixtures and designing waste systems.

5 Hep_vO is a new product to me - how can I be confident that it will give a good installed performance?

Hep_vO is new to the North American market but it is not a new product. It has been in volume production in the UK since 1997 and it is widely used in Europe, Australia and the Far East. It has attained numerous international approvals against very demanding standards and has achieved an enviable track record of trouble-free performance.

6 Will Hep_vO promote better hygiene by stopping the escape of foul sewer air into habitable spaces?

YES - The valve has been proven to perform under conditions in which traditional water seal traps are vulnerable to failure. It will continue to perform under back pressures 10 times greater than those experienced in correctly designed soil and waste systems.

7 Does the air tight seal break down if a strand of cloth or hair collects in the strainer and falls down between the faces of the valve?

NO - Hep_vO has undergone extensive foreign body testing (IAPMO IGC203-04). Tests show that the valve will maintain an air tight seal around an obstruction such as hair, fabric strands or spaghetti.

8 What is the life expectancy of Hep_vO?

Installed correctly Hep_vO can be expected to have a life expectancy at least equivalent to current water sealed traps. In addition Hep_vO is guaranteed against defects in materials or manufacturing for a period of 3 years.

9 Will Hep_vO block easily for example if fat is discharged through it?

NO - Extensive testing has shown that Hep_vO is less prone to blockage than traditional water seal traps. **Note: because the 'straight through' design of Hep_vO does not trap debris discharged through the waste fixture care should be taken with jewelry and other valuables.**

10 Will the seal be maintained even when the fixture hasn't been used for some time?

YES - Hep_vO does not depend on a water seal and so it will continue to maintain a seal whether a fixture never gets used or is used very infrequently.

11 Does the valve make a noise?

Under normal conditions Hep_vO operates silently, unlike normal traps that are prone to 'gurgle'

12 Will Hep_vO support microbiological growth?

NO - The materials used to manufacture Hep_vO will not support microbiological growth for example mold and mildew.

TOLL FREE HELPLINE
800-241-5236

Hep_vO/USA/11/12/3528

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A review of the standards proposed for inclusion in the code, ASME A112.18.8 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1, 2013.

RP149-13

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P3201.1-RP-GEORGE.doc

RP150 – 13

P3201.2, P3201.2.1 (New), P3201.2.2 (New), P3201.2.3 (New), P3201.2.4 (New), Chapter 44

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee
(Dave.Hall@georgetown.org)

Revise as follows:

P3201.2 Trap seals and trap seal protection. Each fixture trap shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm). ~~Traps for floor drains shall be fitted with a trap primer or shall be fitted with a trap primer or shall be of the deep seal design. Trap seal primer valves shall connect to the trap at a point above the level of the trap seal.~~

P3201.2.1 Trap seal protection. Traps seals of emergency floor drain traps and traps subject to evaporation shall be protected by one of the methods in Sections P3201.2.1 through P3201.2.4.

P3201.2.1 Potable water supplied trap seal primer valve. A potable water supplied trap seal primer valve shall supply water to the trap. Water supplied trap seal primer valves shall conform to ASSE 1018. The discharge pipe from the trap seal primer valve shall connect to the trap above the trap seal on the inlet side of the trap.

P3201.2.2 Reclaimed or gray water supplied trap seal primer valve. A reclaimed or gray water supplied trap seal primer valve shall supply water to the trap. Water supplied trap seal primer valves shall conform to ASSE 1018. The quality of reclaimed or gray water supplied to trap seal primer valves shall be in accordance with the requirements of the manufacturer of the trap seal primer valve. The discharge pipe from the trap seal primer valve shall connect to the trap above the trap seal on the inlet side of the trap.

P3201.2.3 Waste water supplied trap primer device. A waste water supplied trap primer device shall supply water to the trap. Waste water supplied trap primer devices shall conform to ASSE 1044. The discharge pipe from the trap seal primer device shall connect to the trap above the trap seal on the inlet side of the trap.

P3201.2.4 Barrier type trap seal protection device. A barrier-type trap seal protection device shall protect the floor drain trap seal from evaporation. Barrier type floor drain trap seal protection devices shall conform to ASSE 1072. The devices shall be installed in accordance with the manufacturer's instructions.

Add new standard to Chapter 44 as follows:

ASSE

1072-07 Performance Requirements for Barrier Type Floor Drain Tap Seal Protection Devices

Reason: This revised and new language was approved for the 2015 IPC. This modification adds language to identify all of the methods available for protecting the trap seal of emergency floor drain traps or traps subject to evaporation. The four methods available are: water supplied trap seal primers, waste supplied trap primer devices, trap seal protection devices, and reclaimed water. A water supplied trap seal primer that is unrestricted can discharge 300 to 500 gallons a year to a trap. A 2" trap requires less than ½ gallon a year to maintain the trap seal. There are now devices available that limit the amount of water discharging to 8 gallons per year. This is another water conservation measure.

Waste supplied trap primer devices divert water from a sink or lavatory to the trap. There is no need to limit the flow on these devices since they use waste water.

Trap seal protection devices do not require any water. They are tested for providing protection of the trap seal.

Reclaimed water can also be used to maintain the trap seal. Since the water is reclaimed, there is no need to limit the annual discharge.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and

multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X30 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A review of the standards proposed for inclusion in the code, ASSE 1072 with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 1, 2013.

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Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3201.2-RP-HALL-PMGCAC

RP151 – 13

P3201.4

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P3201.4 Building traps. ~~Building traps shall be prohibited. Building traps shall not be installed, except in special cases where sewer gases are extremely corrosive or noxious, as directed by the building official.~~

Reason: This revised language was approved for the 2015 IPC. The only remaining purpose identified for the installation of a building trap is to keep rats out of the building. However, super rats can swim through the building trap. Hence, the building trap serves no useful purpose. The problem with building traps is that they create a major obstruction to the flow of sewage. As a result, they often cause stoppages. Since the 1960's, it has been recognized that building traps should be eliminated. The code needs to recognize this by deleting the wording requested by certain major cities. These cities should eliminate their requirements for building traps since they are an obstruction to the flow.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. X31 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP151-13

Public Hearing:	Committee: AS	AM	D
	Assembly: ASF	AMF	DF

P3201.4-RP-HALL-PMGCAC

RP152 – 13

P3201.7, Table P3201.7

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

P3201.7 Size of fixture traps. ~~Fixture~~ Trap sizes for plumbing fixtures shall be ~~sufficient to drain the fixture rapidly and not less than the size as indicated in Table P3201.7. Where the tailpiece of a plumbing fixture is larger than that indicated in Table P3201.7, the trap size shall be the same nominal size as the fixture tailpiece.~~ A trap shall not be larger than the drainage pipe into which the trap discharges.

TABLE P3201.7
REQUIRED SIZES OF TRAPS AND TRAP ARMS FOR PLUMBING FIXTURES

PLUMBING FIXTURE	REQUIRED TRAP SIZE MINIMUM (inches)
Lavatory	1 ¼ or 1 1/2
Water closet	Note a

Consult fixture standards for trap dimensions of specific bowls.

(Portions of table not shown remain unchanged)

Reason: "Sufficient to drain the fixture rapidly" is unenforceable language. The trap sizes in the table should not be minimum sizes but required sizes because too large of trap doesn't allow for proper scouring and cleaning action in the trap. The term "trap arm" is slang. As a water closet has an integral trap, it should not be listed in the table so footnote a was deleted. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 73 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP152-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

P3201.7-RP-HALL-PMGCAC

RP153 – 13

Table P3302.1

Proponent: David Hall CFM, Georgetown, Texas representing the ICC PMG Code Action Committee (Dave.Hall@georgetown.org)

Revise as follows:

**TABLE P3302.1
SUBSOIL DRAIN PIPE**

MATERIAL	STANDARD
Polyvinyl chloride (PVC) Plastic pipe (type sewer pipe, <u>SDR 35</u> PS25, PS50 or PS100)	ASTM D 2729; <u>ASTM D 3034</u> ; ASTM F 891; CSA B182.2; CSA B182.4

(Portions of table not shown are unchanged)

Reason: This type of pipe material is readily available in perforated form and should be allowed to be used in the application. It is commonly being used in these applications. A similar proposal to the IPC was Approved as Submitted. This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes. For PMGCAC member reference, this was item no. 74 on the PMGCAC IRC-P list.

Cost Impact: The code change proposal will not increase the cost of construction.

RP153-13

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

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