Chapter 9-404

HICKMAN PLUMBING CODE

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9-404.430	Chapters 12, 13 and 15 of the Uniform Plumbing Code Deleted.
9-404.450	Chapter 17 Added; Hydronics.
9-404.455	Appendix D, Table D-1, State of Nebraska, Amended; Sizing
	Stormwater Drainage Systems.
9-404.460	Appendix E 9 Amended; M/H Lot Drainage Inlet and Lateral.
9-404.465	Appendix E 11 Amended; Pipe Size.
9-404.470	Appendix L 7.0 Added; Alternate Plumbing System Drawings.

9-404.005 Adoption of 2009 Uniform Plumbing Code.

Except as hereinafter provided by specific amendment, the Uniform Plumbing Code, 2009 Edition, including Appendix: A, B, D, I, and L, sponsored by ASSE, NAPHCC, MCAA, UA and WFCA, is hereby adopted and incorporated into Chapter 9-404 of the Hickman Municipal Code. The presence of these logos, while reflecting support, does not imply any ownership of the copyright to the UPC which is held exclusively by IAPMO. The ASSE "service mark and logo" on the cover of this document indicates ASSE's support of the voluntary, open consensus process being used by IAPMO and NFPA to develop their codes and standards. One copy of this document shall be filed in the office of the City Clerk for use and examination by the public. (Ord. 2013-XX; Month XX, 2013).

9-404.015 Section 101.0 Amended; Title, Purpose and Scope.

Section 101.0 of the Uniform Plumbing Code is amended to read as follows:

101.1 Title. This ordinance shall be known as the "Hickman Plumbing Code," and may be cited as such and will be referred to herein as "this code."

101.2 Purpose. The purpose of this code is to provide minimum standards to safeguard individual life, limb, health, and property, and the public health, safety and welfare by regulating and controlling the design, quality of material, and installation, alteration, and repair of all plumbing and drainage systems within the corporate limits of the City of Hickman and within one mile thereof.

101.3 Scope. The provisions of this code shall apply to the installation, alteration, or repair of all plumbing and drainage systems including the practice, materials, and fixtures used in the installation and appurtenances thereto, except mains and septic systems, within the corporate limits of the City of Hickman and within one mile thereof. Where, in any specific case, different sections of this code specify different materials, methods of installation or other requirements, the most restrictive shall govern.

101.3.1 Appendices. The provisions in the appendices are intended to supplement the requirements of this Code and shall not be considered part of this Code unless formally adopted.

101.4 Alternate Materials or Methods of Installation. The provisions of this code are not intended to prevent the use of any material or method of installation prescribed by this code, provided any such alternate has been approved by the Administrative Authority. The Administrative Authority may approve any such alternate, provided the authority finds that the proposed design is satisfactory and complies with the provisions of this code, and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, durability, and safety.

Administrative Authority shall require that sufficient evidence or proof be submitted by a qualified testing laboratory to substantiate any claims that may be made regarding its use.

101.5 Existing Plumbing. All existing plumbing work coming within the scope of this code shall be subject to inspection by the Administrative Authority at the request of the agent, owner, or occupant of any building or premises where said plumbing work is located in order to ascertain whether or not said plumbing is in a safe and properly operating condition. Whenever defective or improperly operating plumbing is found, the Administrative Authority shall notify the owner of the premises on which same is found or his agent to correct the deficiency in such a manner as the Administrative Authority may authorize and direct. Such owner or agent shall, within ten days after receiving such notification to correct deficiencies, make the necessary corrections, and failure or neglect to do so shall constitute a violation of this ordinance and be subject to prosecution as provided by law. (Ord. 2013-XX; Month XX, 2013).

9-404.020 Section 102.0 Amended; Organization and Enforcement.

Section 102.0 of the Uniform Plumbing Code is amended to read as follows:

102.0 Organization and Enforcement.

102.1 Administrative Authority. The City Administrator for the City of Hickman is herein designated as the "Administrative Authority" and he shall be responsible for administration and enforcement of this code. The Administrative Authority may appoint, through the power of the City Council, such inspectors and other employees as shall be authorized from time to time. He may deputize and authorize such inspectors or employees as may be necessary to carry out his duties and responsibilities under this code.

102.2 Right of Entry. Whenever it shall be necessary to make an inspection to enforce any of the provisions of this code, or whenever the Administrative Authority or his authorized representative have reasonable cause to believe that there exists in any building upon any premises any plumbing or drainage systems, or portions thereof, that have become hazardous to life, limb, health, or property, or that work is being done or has been done in violation of this code, then the Administrative Authority or his authorized representative may enter such building or premises at all reasonable times to inspect the same or perform any duty imposed upon the Administrative Authority by this code; provided that:

(1) If such building or premises be occupied, he shall first present proper credentials and request entry; and

(2) If such building or premises be unoccupied, he shall first make a reasonable effort to locate the owner or other persons having charge or control of the building or premises and request entry. If such entry is refused, the Administrative Authority shall have recourse to every remedy provided by law to secure entry.

102.3 Enforcement.

102.3.1 All plumbing and drainage systems coming within the scope of this code, including all water, sanitary sewer, and storm sewer mains on private property, shall be inspected by the Administrative Authority to assure compliance with all the requirements herein. Mains as herein defined shall be either water, sanitary sewer, or storm sewer, connecting two or more buildings, structures, or premises under single- or multi-ownership.

102.3.2 Private water mains two inches or larger, private sanitary sewer mains six inches or larger, and private storm sewer mains fifteen inches or larger shall be installed in accordance with the specifications and design standards established by the Administrative Authority. Mains smaller in size than listed above, located on private property, shall be installed

in accordance with the Hickman Plumbing Code, Table 1 and inspected by the Administrative Authority.

Table 1Underground PVC Sanitary,Storm InstallationsMaterials Inside & Outside of Buildings

<u>Pipe Size</u>	<u>Type</u>	<u>Joints</u>
2 in through 6 in	Schedule 40 Schedule 80 ASTM 2241 SDR 26 AWWA C-900 DR-14 ASTM-F405-2005	Solvent Weld Or Gasket
8 in through 12 in	All the above ASTM -3034 SDR 26	Solvent Weld Or Gasket
15 in or Larger	All of the above ASTM - F679 T-1 ¹ ASTM 3034 SDR- 35	Solvent Weld Or Gasket

¹ exterior storm water only with watertight joints

Bedding Requirements from invert to top of pipe

Inside of Building structure

All sizes --- 47B gravel or crushed limestone 3/4" crushed run or chips

Exterior of Building structure

2" thru 6" not required

8" and larger 47B gravel or crushed limestone 3/4" crushed run or chips

102.3.3 Water, sanitary sewer, or storm sewer systems must comply with the requirements of the Hickman Plumbing Code for individual services as a condition of subdivision approval.

EXCEPTION: Mains installed on public right-of-way or dedicated public easements shall be exempt from the requirements of the Hickman Plumbing Code, but shall comply with the design standards and specifications as administered by the Public Works and Utilities Department.(Ord. 2013-XX; Month XX, 2013).

9-404.025 Section 103 Amended; Inspections and Tests.

Section 103.0 of the Uniform Plumbing Code is amended to read as follows:

103.0 Inspections and Tests.

103.1 It shall be the duty of the person installing, altering, or repairing plumbing or drainage systems authorized by a permit under this code to notify the Administrative Authority orally or in writing that said plumbing work is ready for inspection. Such notification shall be given not less than twenty-four hours before the plumbing or drainage work is ready for inspection. It shall be the duty of the permittee doing the work authorized by a permit to provide reasonable access and means for accomplishing proper inspection. In the event that the registered master plumber, identified under Hickman Municipal Code 9-404.030 as authorized to take out a permit, is intending for the owner of the property to request a final inspection, said registered master plumber shall provide the owner of the property with information on requesting a city inspection. The owner of the proper inspection. For all inspections, the work to be inspected must properly withstand all tests prescribed and all equipment shall be operational before giving the above notification. If the Administrative Authority shall find that the work will not withstand the prescribed tests or is not operational, the permittee or owner shall be required to renotify the Administrative Authority as provided above and shall be subject to a reinspection fee charge.

103.2 No person shall cover or conceal from view any plumbing or drainage work in any building or premises so as to prevent a proper inspection thereof by the Administrative Authority. Whenever any plumbing or drainage work in any building or premises has been covered or concealed before the Administrative Authority has had an opportunity to inspect same, the Administrative Authority shall have authority to order the opening of such cover at the permittee's expense in order to make a proper inspection. No plumbing or drainage system shall be used or the water permanently turned on until such system has been finally inspected and approved by the Administrative Authority.

103.3 All rough and finish plumbing shall be tested with air or water as prescribed in this code. When it is necessary to cover a portion of the work before all of the rough plumbing is ready for inspection, the Administrative Authority must be notified and a test made by filling the same with water under a pressure that will be equal to the entire plumbing system when filled to the top of the highest vent pipe. If the groundwork is to be connected to the sewer, there shall be a suitable fitting left in the main soil pipe not more than one foot from where the soil pipe enters the building, so that a testing plug can be inserted. The Administrative Authority, upon approving the rough plumbing or drainage work, shall place thereon a notice stating that the same has been inspected and approved.

103.4 Stop Orders. Whenever any plumbing or drainage system is being installed, altered, or repaired contrary to the provisions of this code, the Administrative Authority shall order the work stopped by notice served on any person or persons engaged in the doing or causing such work to be done, and any such work shall forthwith stop until the administrative authority has authorized the work to proceed again.

The Administrative Authority shall investigate all cases reported or referred to him alleging the use of improper material or workmanship on any work involving installation, alteration, or repair of a plumbing or drainage system by any person and may stop such work in a manner as above described.

103.5 Reports and Records. The Administrative Authority shall keep a complete record of all inspections and tests made pursuant to the provisions of this code. An accurate accounting of fees and other monies collected and received under the provisions of this code shall be deposited with the City Treasurer.

103.6 Condemnation Procedures. Whenever defective or improperly operating plumbing equipment or work is found, the Administrative Authority shall condemn such equipment or work by notification to the master plumber contractor, owner of the premises, or agent thereof in writing noting the deficiencies and requiring correction thereof within not less than ten days after receiving such notification. Failure or neglect to correct deficiencies or make necessary corrections within the time designated by the Administrative Authority shall constitute a violation of this ordinance and shall be subject to prosecution as hereinafter provided. (Ord. 2013-XX; Month XX, 2013).

9-404.030 Section 104.0 Added; Permit Required.

Section 104.0 is added to the Uniform Plumbing Code to read as follows:

104.0 Permit Required.

104.1 No person shall install, alter, or repair any plumbing or drainage work or cause the same to be done, without first obtaining a permit therefor from the Administrative Authority as hereinafter required; provided, no permit, license, or registration shall be required for minor repair work. Minor repair work as used in this section is defined as maintenance of the plumbing system, such as the repair of a damaged or leaking trap, water pipe, or drain pipe with approved materials; opening up and cleaning drain pipes; repairing and/or resetting of existing fixtures; or the replacement of faucets, faucet washers, float valves, ball stops, hoses, or sump pumps. The replacement and/or relocation of water pipes, drain pipes, vent pipes, fixtures, or the change in type or kind of fixture shall require a permit.

104.2 A permit shall be issued only to a licensed Nebraska master plumber contractor; provided, a permit may be issued to the owner of a single-family dwelling to do plumbing or drainage work in such dwelling where the same is used exclusively for the purposes of such owner. Such plumbing or drainage work performed by an owner shall be performed by himself without compensation or pay to any other person therefor. Any owner doing plumbing or drainage work hereunder shall apply for the required permit, pay the prescribed fee therefor, call for inspections and do all work in accordance with the provisions of this code.

EXCEPTION: A utility contractor working in the public right-of-way or within dedicated public easements, under the authorization of the Public Works and Utilities Department or the authority of an executive order, shall be allowed to take out plumbing permits. Such permits shall be limited to the reconnection of the portion of existing building sewer services which lie within the public right-of-way or dedicated public easement, and will tap into the new parallel or replacement sewer main. Public Works and Utilities Administration providing inspection on such utility projects shall be responsible to ensure permits are taken out in accordance with the plumbing code, and the records for the new connections and taps, including accurate measurements providing size and location, are forwarded to the City office in a timely manner.

104.3 Application for Permit. A plumbing permit may be obtained by filing a written application therefor on a form furnished by the Administrative Authority. Such form shall require a description of the character of the work proposed to be done under the permit, the location, ownership, occupancy and use of the premises in connection therewith, and such other information as may reasonably be necessary to carry out the purpose of this code. All applications for a plumbing permit shall be signed by the applicant. The Administrative Authority may further require that two sets of plans and specifications or details be submitted with each application for a permit and that such plans and specifications or details be prepared, designed, and sealed by a licensed engineer or architect of the State of Nebraska. All plans and specifications shall include a schematic riser diagram and shall be of sufficient clarity to indicate

the nature and extent of the work proposed, and shall show in detail that such work will conform to the provisions of this code and all relevant laws, ordinances, rules, and regulations.

104.4 Permits. The application for a plumbing permit together with the plans and specifications filed therewith shall be examined by the Administrative Authority and if he is satisfied that the work proposed conforms to the requirements of this code, he shall issue a permit to the applicant upon payment of the prescribed permit fee. Every permit issued shall under these provisions expire by limitation and become null and void if the building or work authorized by such permit is not commenced within 120 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the work has commenced for a period of 180 days. Upon issuance of the permit, the Administrative Authority shall stamp one set of plans and specifications "approved" such work as approved shall not be changed, modified, or altered without authorization from the Administrative Authority.

104.5 Fees. A fee for each plumbing permit shall be paid to the Administrative Authority as set forth by the Hickman Master Fee Schedule. (Most Current Version).

Where work for which a permit is required by this code is started prior to obtaining the prescribed permit, the fees above specified may be doubled; provided, in the event of an emergency where it is absolutely necessary to perform the plumbing work immediately before a permit can be secured, such as on nights, weekends, or holidays, said fee shall not be doubled if a permit is secured at the earliest possible time after the emergency plumbing work has been performed. The payment of such double fees shall not relieve any person from fully complying with the requirements of this code or from any penalties prescribed herein. There shall be no refunds or credits given on unused permits which have expired. Permit holders returning an unused permit prior to the expiration date of the permit shall be limited to a maximum refund amounting to two-thirds of the original fee, with the remaining one-third not to exceed \$25.00 to be used to pay in part the cost of processing the permit. (Ord. 2013-XX; Month XX, 2013).

9-404.035 Section 105.0 Added; Plumbing Board of Appeals.

Section 105.0 is added to the Uniform Plumbing Code to read as follows:

105.0 Plumbing Board of Appeals

105.1 Creation. In order to review determinations of the Administrative Authority as to the suitability of alternate materials and types of installation and in order to review interpretations of the provisions of this code by the Administrative Authority, there is hereby created and established a Plumbing Code Board of Appeals consisting of five members who shall be qualified by experience and training to pass upon matters pertaining to plumbing and drainage work. Two members shall be licensed Nebraska master plumber contractors. The Administrative Authority shall be ex officio member and shall act as Secretary of this Board. The five members of the Appeals Board shall be appointed by the Mayor and shall hold office at his or her pleasure. The Board may adopt reasonable rules and regulations for the conduct of its investigations and shall render all decisions and findings in writing to the Administrative Authority with a duplicate copy to the person appealing to it.

105.2 Filing Fees. (a) Any person who is aggrieved by any decision, notice or order of the Administrative Authority relating to the suitability of alternate materials and types of installation and interpretation of any provision of this code may obtain review of such decision upon filing a written request for review by the Plumbing Code Board of Appeals in the office of the Administrative Authority within thirty days from the date of such decision and payment of a filing fee as provided below:

(1) A two hundred forty dollar (\$240.00) fee for review of a decision of the Administrative Authority interpreting any provision or provisions of this code;

(2) A two hundred forty dollar (\$240.00) fee for review of a decision of the Administrative Authority concerning the suitability of alternate materials or type of installation.

(b) The Administrative Authority shall refer all properly and timely filed appeals to the Plumbing Code Board of Appeals for hearing. The secretary of said board shall in each appeal notify the appellant in writing of the date, time, and place of hearing before the board, which date shall be no later than thirty days from the filing of the appeal. Such notice shall be served upon the appellant by personal service or certified mail.

(c) Hearings on appeal need not be conducted according to technical rules relating to evidence and witnesses. Oral evidence shall be taken only on oath or affirmation. Any relevant evidence shall be admitted if it is the type of evidence upon which responsible persons are accustomed to rely in the conduct of serious affairs, regardless of the existence of any common law or statutory rule which may make improper the admission of such evidence over objection in civil actions in courts of competent jurisdiction in this state. Irrelevant and unduly repetitious evidence shall be excluded. The appellant, the board members, the Administrative Authority, and any other party to an appeal hereunder shall have these rights, among others:

hearing:

(1) To call and examine witnesses on any matter relevant to the issues of the

(2) To introduce documentary and physical evidence;

(3) To cross-examine opposing witnesses on any matter relevant to the issues of the

hearing; and

(4) To rebut evidence.

(d) The Plumbing Code Board of Appeals shall then within a reasonable time after the hearing render a written decision which shall state its findings and conclusions. Decisions of the Plumbing Code Board of Appeals may be appealed as provided by law.

(e) Enforcement of any decision, notice, or order of the Administrative Authority issued under this code shall be stayed during the pendency of an appeal therefrom which is properly and timely filed, except in cases of emergency, where enforcement of the same is necessary for the protection of persons or property. (Ord. 2013-XX; Month XX, 2013).

9-404.045 Section 107.0 Added; Classification of Plumbers.

Section 107.0 is added to the Uniform Plumbing Code to read as follows:

107.0 Classification of Plumbers.

107.1 Classification. There shall be four classes as follows:

(1) Master plumber contractor is hereby defined to be any person skilled in the planning, superintending, and material installation of plumbing and drainage and gas piping, and who is familiar with the ordinances and regulations governing the same, and who is competent to install, repair, alter, or remove plumbing or drainage or gas piping with the full responsibility of supervision, whether doing such work by himself or employing journeyman plumbers and plumbing apprentices to assist him. A master plumber contractor may supervise a maximum of three apprentices at a job site address.

(2) Master plumber is hereby defined to be any person skilled in the planning, superintending, and material installation of plumbing and drainage and gas piping, and who is familiar with the ordinances and regulations governing the same, and who is competent to install, repair, alter, or remove plumbing or drainage or gas piping with the full responsibility of supervision, whether doing such work by himself or employing journeyman plumbers and plumbing apprentices to assist him. However, said master plumber cannot take out permits except as provided under Section 9-404.030, 104.2 for owner occupants. A master plumber may supervise a maximum of three apprentices at a job site address.

(3) Journeyman plumber is hereby defined to be any person employed by a master plumber, other than a plumber's apprentice, who as his principal occupation is engaged in the practical installation, alteration, repair, or removal of plumbing and drainage or gas piping. A journeyman plumber may supervise a maximum of three apprentices at a job site address.

(4) Plumber's apprentice is hereby defined to be a person, other than a master plumber or journeyman plumber, who as his principal occupation is engaged in learning and assisting in the installation, repair, alteration, or removal of plumbing and drainage or gas piping as an employee under the direct supervision and on the same job site of a master plumber or journeyman plumber and shall be in compliance with state and federal labor laws.

107.2 No person shall engage in or hold himself out as engaging in the plumbing business in the city, or within one mile thereof, or install any piping, fixtures, or other apparatus for supplying water or install any plumbing fixtures, drainage, vents, and water distribution systems except as provided in Section 9-404.030 herein, or install any gas piping system, unless he shall have been duly authorized to do so by one of the classifications above described; except that gas piping systems may also be installed by any person holding an appropriate registration under Chapter 9-408 or 9-409 of this Code. (Ord. 2013-XX; Month XX, 2013).

9-404.055 Section 109.0 Added; Sanitary Sewer Connection.

Section 109.0 is added to the Uniform Plumbing Code to read as follows:

109.0 Sanitary Sewer Connection.

109.1 Outside Corporate City Limits. In the event premises outside of the corporate limits of the city desire to be connected to the public sanitary sewer system, such connection shall be permitted and the charges for such connection shall be determined by the City Council.

109.2 Connection to Public Water or Sanitary Sewer System by Nonabutting Agreement. In the event the public water system or public sanitary sewer system is not available to a premises, then such premises may be permitted to connect to such public systems by specific request to the City Council. A public water or sanitary sewer system shall be deemed available to a premises if such premises are within 300 feet, measured along a street, alley, or public utility easement.

109.3 Licensed Nebraska Master Plumber to Install Sewer to Tap. No person other than a licensed Nebraska master plumber contractor or his full-time employee registered as a plumber shall install the sanitary building sewer drain to its point of connection to the sanitary sewer main except as permitted in Section 9-404.030.

109.4 Sanitary Sewer Tap Permit. A sanitary sewer tap permit may be obtained by filing a written application therefor on a form furnished by the wastewater system. Such form shall require a description of the sanitary building sewer material, the location and ownership of the premises in connection therewith, the location and depth of the sanitary building sewer at its point of connection with the public sanitary sewer main, and such other information as may reasonably be required by the wastewater system. A sanitary sewer tap permit may be issued only to a properly licensed Nebraska master plumber contractor. The licensed Nebraska master plumber contractor to whom the permit has been issued shall notify the wastewater system in advance of the time the tap is to be made.

109.5 Making Tap. No person, except an employee of the wastewater system shall, under any circumstances, tap the public sanitary sewer mains, except by special authorization of the Director of Public Works and Utilities. The licensed Nebraska master plumber contractor shall be responsible to see that all necessary excavation shall be made and all dirt cleaned from around the sanitary sewer main sufficiently to permit the making of the tap. The licensed Nebraska master plumber contractor shall be responsible to see that shoring or bracing of the excavation is installed

and shall not be backfilled until the tap is made by the wastewater system and the sanitary building sewer connection to the tap has been inspected and approved by the Public Works Department.

109.6 Tap Fees. The tap to be used in making the connection to the public sanitary sewer main shall be furnished by the wastewater system and the cost thereof, together with the installation cost, shall be paid by the licensed Nebraska master plumber contractor to the wastewater system at the time of issuance of the tap permit. (Ord. 2013-XX; Month XX, 2013).

9-404.060 Section 212.0 Amended; Definitions - J.

Section 212.0 of the Uniform Plumbing Code is amended by adding the following definition for "job site":

Job Site – The Address for which the permit is issued. (Ord. 2013-XX; Month XX, 2013).

9-404.065 Section 218.0 Amended; Definitions - P.

Section 218.0 of the Uniform Plumbing Code is amended by amending the definition of "plumbing system" and adding the definition of "premises" as follows:

Plumbing System -- Includes all potable water building supply and distribution pipes, all plumbing fixtures and traps, all drainage and vent pipe(s), and all building drains and building sewers, including all building drains and building sewers, including their respective joints and connection, devices, receptors, and appurtenances within the property lines of the premises and shall include potable water piping, potable water treating or using equipment, water heaters and vents for same.

Premises – A tract of land and the buildings upon it, consisting of one platted lot or irregular tract, or more than one platted lot or irregular tract and the buildings or part of a building upon it; provided, such lots are under common ownership and contiguous. (Ord. 2013-XX; Month XX, 2013).

9-404.070 Section 220.0 Amended; Definitions - R.

Section 220.0 of the Uniform Plumbing Code is amended by adding the definition of "rain sensor" as follows:

Rain Sensor - An automatic device that can be set to turn off an underground irrigation system under predetermined rain or soil moisture conditions. (Ord. 2013-XX; Month XX, 2013).

9-404.075 Section 224.0 Amended; Definitions - V.

Section 224.0 of the Uniform Plumbing Code is amended by adding the definition of "vent, loop" as follows:

Vent, Loop – A circuit which loops back to connect with a stack vent instead of a vent stack. (Ord. 2013-XX; Month XX, 2013).

9-404.080 Section 311.1 Amended; Drainage Fitting.

Section 311.1 of the Uniform Plumbing Code is amended to read as follows:

311.1 Drainage fitting. No double hub fitting, single or double tee branch, single or double tapped tee branch, running thread, band, or saddle shall be used as a drainage fitting, except that a double hub sanitary tee with single or double side inlet may be used on a vertical line as a fixture connection. (Ord. 2013-XX; Month XX, 2013).

9-404.085 Section 311.3 Deleted; Waste Connection.

Section 311.3 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.090 Section 311.4 Deleted; Vent Pipe.

Section 311.4 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.095 Section 311.8 Amended; Screwed Fittings.

Section 311.8 of the Uniform Plumbing Code is amended to read as follows:

311.8 Screwed Fittings. Screwed fittings shall be cast iron, copper, copper alloy, malleable iron, PVC, steel, or other approved materials. Threads shall be tapped out of solid metal or molded in solid or PVC. (Ord. 2013-XX; Month XX, 2013).

9-404.100 Section 312.1 Added; Structures Considered as One Building.

Section 312.1 is added to the Uniform Plumbing Code to read as follows:

312.1 Structures Considered as One Building. Any structure having common exterior walls and roof and designed and approved by the Administrative Authority to be owned and used by separate owners may be considered as one building for the purposes of Section 312.0 above; provided, that an agreement, approved by the City Attorney as meeting the requirements of this section, binding upon all present and future owners of the structure has been recorded in the office of the Lancaster County Register of Deeds granting to all owners of the structure or portion thereof easement and access rights for the construction, maintenance, repair, and replacement of the common sanitary building drain and sanitary building sewer elements of such structure; and further, providing as among the owners of the structure for the responsibility for and the payment of all expense of such construction, maintenance, repair and replacement of such common sanitary building sewer. Before the issuance of a plumbing permit for any plumbing for such structure or portion thereof, the agreement shall be executed and approved and shall be recorded by owners at their expense with the Lancaster County Register of Deeds. (Ord. 2013-XX; Month XX, 2013).

9-404.105 Section 315.4 Amended; Trenching, Excavation, and Backfill.

Section 315.4 of the Uniform Plumbing Code is amended to read as follows:

315.4 All excavations shall be completely backfilled as soon after inspection as practicable. Adequate precaution shall be taken to insure proper compactness of backfill around piping without damage to such piping. Trenches shall be backfilled with clean earth which shall not contain stones, boulders, cinderfill, frozen earth, construction debris or other materials which would damage or break the piping or cause corrosive action. Mechanical devices such as bulldozers, graders, etc., may then be used to complete backfill to grade. Fill shall be properly compacted. Suitable precautions shall be taken to insure permanent stability for pipe laid in filled or made ground. (Ord. 2013-XX; Month XX, 2013).

9-404.110 Section 401.2 Amended; Lead.

Section 401.2 of the Uniform Plumbing Code is amended to read as follows:

401.2 Lead. See Table 14-1. Sheet lead shall be not less than the following:

For safe pans – not less than 2 1/2 pounds per square foot or 1/16 inch thick. (Ord. 2013-XX; Month XX, 2013).

9-404.115 Section 402.3.1 Deleted; Nonwater Urinals.

Section 402.3.1 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.120 Section 405.2 Exception Deleted; Prohibited Urinals.

The exception in Section 405.2 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.125 Strainers and Connections.

Approved wye or other directional type branch fittings shall be installed in all continuous wastes connecting or receiving the discharge from food waste disposal units, dishwashers, clothes washers, or other force discharge fixtures or appliances. (Ord. 2013-XX; Month XX, 2013).

9-404.130 Section 414.5 Amended; Limitation of Hot Water in Bathtubs and Whirlpool Bathtubs.

Section 414.5 of the Uniform Plumbing Code is amended to read as follows:

414.5 Limitation of Hot Water in Bathtubs and Whirlpool Bathtubs. The maximum hot water temperature discharging from the bathtub and whirlpool bathtub filler shall be limited to 120° F by a device that conforms to ASSE 1070 or CSA B125.3. The water heater thermostat shall not be considered a control for meeting this provision. This does not apply to single family dwellings. (Ord. 2013-XX; Month XX, 2013).

9-404.135 Section 418.0 Amended; Shower and Tub-Shower Combination Control Valves.

Section 418.0 of the Uniform Plumbing Code is amended to read as follows:

418.0 Shower and Tub-Shower Combination Control Valves. Showers and tub-shower combinations in buildings shall be provided with individual control valves of the pressure balance, thermostatic, or combination pressure balance/thermostatic mixing valve type that provide scalds and thermal shock protection. These valves shall conform to ASSE 1016 or ASME A112.18.1/CSA B125.1. Gang showers, when supplied with a single temperature-controlled water supply pipe, shall be controlled by a mixing valve that conforms to ASSE 1069. Handle position stops shall be provided on such valves and shall be adjusted per the manufacturer's instructions to deliver a maximum mixed water setting of 120°F. The water heater thermostat shall not be considered a suitable control for meeting this provision. This does not apply to single family dwellings. (Ord. 2013-XX; Month XX, 2013).

9-404.140 Table 4-1 Amended; Footnote 18 Added; Minimum Plumbing Facilities.

Footnote 18 is added to Table 4-1 of the Uniform Plumbing Code to read as follows:

¹⁸ Occupancies of 25 or less need only one mens and one womens lavatory and water closet.

(Ord. 2013-XX; Month XX, 2013).

9-404.145 Section 510.0 Deleted; Venting of Appliances.

Section 510.0 of the Uniform Plumbing Code and all subsections, figures and tables related thereto are hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.150 Section 511.0 Deleted; Sizing of Category I Venting Systems.

Section 511.0 of the Uniform Plumbing Code and all subsections, figures and tables related thereto are hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.160 Section 603.4.16 Deleted; Protection from Fire Systems.

Section 603.4.16 of the Uniform Plumbing Code and all subsections thereof are hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.165 Table 6-4 Amended; Materials for Building Supply and Water Distribution Piping and Fittings.

Table 6-4 of the Uniform Plumbing Code is amended to read as follows:

[See Table 6-4 on the following page]

 TABLE 6-4

 Materials for Building Supply and Water Distribution Piping and Fittings

Material	Building Supply Pipe and Fittings	Water Distribution Pipe and Fittings	Referenced Standard(s) Pipe	Referenced Standard(s) Fittings
Brass	Х	Х	ASTM B43, ASTM B135	
Copper	Х	Х	ASTM B42, ASTM B75, ASTM B88, ASTM B251, ASTM B302, ASTM B447	ASME B16.15, ASME B16.18, ASME B16.22, ASME B16.26
Ductile-Iron	Х	Х	AWWA C151	ASME B16.4, AWWA C110, AWWA C153
Galvanized Steel	Х	Х	ASTM A53	
Malleable Iron	Х	Х		ASME B16.3
PE (Outside Only)	X^1		ASTM D2239, ASTM D2737, ASTMD3035, AWWA C901, CSA B137.1	ASTM D2609, ASTM D2683, ASTM D3261, ASTM F1055, CSA B137.1
PE-AL-PE	Х	Х	ASTM F1282, CSA B137.9	ASTM F1282, ASTM F1974, CSA B137.9
PEX	X	X	ASTM F87 , ASTM F877, CSA B137.5	ASTM F877, ASTM F1807, ASTM F1960, ASTM F1961, ASTM F2080, ASTM F2159, CSA B137.5
PEX-AL-PEX	Х	Х	ASTM F1281, CSA B137.10, ASTM F2262	ASTM F1281, ASTM F1974, ASTM F2434, CSA B137.10
PVC (Outside Only)	X^1		AWWA C900	AWWA C-110
Stainless Steel	Х	Х	ASTM A269, ASTM A312	

¹ For Building Supply or cold-water applications.

(Ord. 2013-XX; Month XX, 2013).

9-404.170 Section 604.1 Amended; Materials.

Section 604.1 of the Uniform Plumbing Code is amended to read as follows:

604.1 Water distribution pipe, building supply water pipe and fittings shall be of brass, copper, cast iron, galvanized malleable iron, galvanized wrought iron, galvanized steel, or other approved materials. PEX water pipe manufactured to recognized standards may be used for cold water distribution systems outside a building. PEX water pipe, tubing, and fittings, manufactured to recognized standards may be used for hot and cold water distribution systems within a building. All materials used in the water supply system, except valves and similar devices shall be of a like material, except where otherwise approved by the Administrative Authority. (Ord. 2013-XX; Month XX, 2013).

9-404.175 Section 604.2 Amended; Copper Tube.

Section 604.2 of the Uniform Plumbing Code is amended to read as follows:

604.2 Copper tube for water piping shall have a weight of not less than Type L.

EXCEPTION: Type M copper tubing may be used for water piping when piping is above ground in, or on, a building. (Ord. 2013-XX; Month XX, 2013).

9-404.180 Section 604.4 Deleted; Materials.

Section 604.4 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.185 Section 604.12 Deleted; Flexible Corrugated Connectors.

Section 604.12 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.190 Section 604.14 Deleted; Water Heater Connectors.

Section 604.14 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.195 Section 605.5 Amended; Control Valve Installation.

Section 605.5 of the Uniform Plumbing Code is amended to read as follows:

605.5 A control valve shall be installed immediately ahead of each water-supplied appliance and immediately ahead of each slip joint or appliance supply. (Ord. 2013-XX; Month XX, 2013).

9-404.200 Section 606.2.2 Deleted; Plastic Fittings.

Section 606.2.2 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.205 Section 608.5 Amended: Use of Joints.

Section 608.5 of the Uniform Plumbing Code is amended to read as follows:

608.5 Use of Joints. Relief valves located inside a building shall be provided with a drain, not smaller than the relief valve outlet, of galvanized steel, hard drawn copper piping and fittings, or listed relief valve drain tube with fittings which will not reduce the internal bore of the pipe or tubing (straight lengths as opposed to coils) and shall extend from the valve to the outside of the building with the end of the pipe not more than two (2) feet nor less than six (6) inches above the ground or the flood level of the area receiving the discharge and pointing downward. Such drains may terminate at other approved locations. No part of such drain pipe shall be trapped

or subject to freezing. The terminal end of the drain pipe shall not be threaded. (Ord. 2013-XX; Month XX, 2013).

9-404.210 Section 609.1 Amended; Installation.

Section 609.1 of the Uniform Plumbing Code is amended to read as follows:

609.1 Installation. All water piping shall be adequately supported to the satisfaction of the Administrative Authority. Burred ends shall be reamed to the full bore of the pipe or tube. Changes in direction shall be made by the appropriate use of fittings, except that changes in direction in copper tubing may be made with bends, provided that such bends are made with bending equipment which does not deform or create a loss in the cross-sectional area of the tubing. Changes in direction are allowed with flexible pipe and tubing without fittings in accordance with the manufacturer's installation instructions. Provisions shall be made for expansion in hot water piping. All piping, equipment, appurtenances, and devices shall be installed in a workman-like manner in conformity with the provisions and intent of the Code. All water service yard piping shall be at least twelve (12) inches below the average local frost depth. (Ord. 2013-XX; Month XX, 2013).

9-404.215 Section 609.2 Amended; Installation Testing, Unions, and Location.

Section 609.2 of the Uniform Plumbing Code is amended to read as follows:

609.2 Installation Testing, Unions, and Location. Water pipes shall not be run or laid in the same trench as building sewer or drainage piping unless both of the following conditions are met:

609.2.1 The bottom of the water pipe, at all points, shall be at least twelve (12) inches above the top of the sewer or drain line.

609.2.2 The water pipe shall be placed on a solid shelf excavated at one side of the common trench with a minimum clear horizontal distance of at least twelve (12) inches from the sewer or drain line. Water pipes crossing sewer or drainage piping shall maintain a 12-inch separation. (Ord. 2013-XX; Month XX, 2013).

9-404.220 Section 609.3.1 Deleted; Ferrous Piping.

Section 609.3.1 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.225 Section 609.5 Deleted; Unions.

Section 609.5 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.230 Section 609.6 Deleted; Location.

Section 609.6 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.235 Section 609.7 Deleted; Use of Abutting Lots.

Section 609.7 of the Uniform Plumbing Code and all subsections thereof are hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.240 Section 609.10 Amended; Water Hammer.

Section 609.10 Of the Uniform Plumbing Code is amended to read as follows:

609.10 Water Hammer. All building water supply systems in which quick-acting valves are installed shall be provided with devices to absorb the hammer caused by high pressures resulting from the quick closing of these valves. These pressure-absorbing devices shall be either air chambers or approved mechanical devices. Water pressure absorbing devices shall be installed as close as possible to quick-acting valves.

EXCEPTION: Shall not be required in residential installations. (Ord. 2013-XX; Month XX, 2013).

9-404.245 Table 6-5 Amended; Water Supply Fixture Units.

Table 6-5 of the UniformPlumbing Code is amended to read as follows:[See Table 6-5 on following page]

TABLE 6-5Water Supply Fixture Units (WSFU) and Minimum Fixture Branch Pipe Sizes 31/2 inch = 15 mm3/4 inch = 20 mm1 inch = 25 mm

	Minimum			
	Fixture Branch Pipe Size ^{1,3}	Private	Public	Assembly ⁵
Appliances, Appurtenances or Fixtures ²	Tipe Size	Tilvale	r ublic	Assembly
Bathtub or Combination Bath/Shower (fill)	1/2"	4.0	4.0	
3/4" Bathtub Fill Valve		10.0	10.0	
Bidet		1.0	10.0	
Clothes washer		4.0	4.0	
Dental Unit, cuspidor		1.0		
Dishwasher, domestic		1.5	1.5	
Drinking Fountain or Water cooler		0.5	0.5	0.75
Hose Bibb		2.5	2.5	
Hose Bibb, each additional 7		1.0	1.0	
Lavatory.		1.0	1.0	1.0
Mobile Home, each (minimum)		12.0		
Sinks				
Bar	1/2"	1.0	2.0	
Clinic Faucet	1/2"	3.0		
Clinic Flushometer Valve				
with or without faucet	1"	8.0		
Kitchen, domestic	1/2"	1.5	1.5	
Laundry	1/2"	1.5	1.5	
Service or Mop Basin	1/2"	1.5	3.0	
Washup, each set of faucets	1/2"	2.0		
Shower, per head	1/2"	2.0	2.0	
Urinal, 1.0 GPF Flushometer Valve.		See Footn	ote 6	
Urinal, greater than 1.0 GPF Flushometer Valve		See Footn	ote 6	
Urinal, flush tank	1/2"	2.0	2.0	3.0
Wash fountain, circular spray	3/4"	4.0		
Water Closet, 1.6 GPF Gravity Tank	1/2"	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Tank	1/2"	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Valve		See Footn	ote 6	
Water Closet, greater than 1.6 GPF Gravity Tank	1/2"	3.0	5.5	7.0
Water Closet, greater than 1.6 GPF Flushometer Valve	1"	See Footn	ote 6	

Notes:

- 1. Size of the cold branch pipe, or both the hot and cold branch pipes.
- 2. Appliances, Appurtenances or Fixtures not included in this Table may be sized by reference to fixtures having a similar flow rate and frequency of use.
- 3. The listed minimum supply branch pipe sizes for individual fixtures are the nominal (I.D.) pipe size.
- 4. For fixtures or supply connections likely to impose continuous flow demands, determine the required flow in gallons per minute (GPM) and add it separately to the demand (in GPM) for the distribution system or portions thereof.
- 5. Assembly [Public Use (See Table 4-1)].
- 6. When sizing flushometer systems see Section 610.10.
- 7. Reduced fixture unit loading for additional hose bibbs as used is to be used only when sizing total building demand and for pipe sizing when more than one hose bibb is supplied by a segment of water distributing pipe. The fixture branch to each hose bibb shall be sized on the basis of 2.5 fixture units.

(Ord. 2013-XX; Month XX, 2013).

9-404.250 Section 701.1 Amended; Drainage Systems; Materials.

Section 701.1 of the Uniform Plumbing Code is amended to read as follows:

701.1 Drainage piping shall be cast iron, galvanized steel, galvanized wrought iron, lead, copper, brass, Schedule 40 PVC DWV, extra strength vitrified clay pipe, or other approved materials having a smooth and uniform bore, except that:

701.1.1 No galvanized wrought iron or galvanized steel pipe shall be used underground and shall be kept at least six (6) inches above ground.

701.1.2 PVC DWV piping installations shall be installed in accordance with IS 5, IS 9 and Chapter 15 "Firestop Protection for DWV and Stormwater Application". Except for individual single family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of not more then 25 and a smoke-developed index of not more than 50, when tested in accordance with the Test for Surface -Burning Characteristics of the Building Materials (See the Building Code standards based on ASTM E-84 and ANSI/UL 723.).

701.1.3 No vitrified clay pipe or fittings shall be used above ground or where pressurized by a pump or ejector. They shall be kept at least twelve (12) inches below ground.

701.1.4 Copper tube for drainage and vent piping shall have a weight of not less than that of copper drainage tube type DWV.

EXCEPTION: Type L shall be required underground. (Ord. 2013-XX; Month XX, 2013).

9-404.255 Table 7-1 Amended; Materials for Drain, Waste, Vent Pipe and Fittings.

Table 7-1 of the Uniform Plumbing Code as it relates to Section 701.1 of the Uniform Plumbing Code is amended to read as follows:

Table 7-1Materials for Drain, Waste, Vent Pipe and Fittings

Material	Underground Drain, Waste, Vent Pipe and Fittings	Above ground Drain, Waste, Vent Pipe and Fittings	Building Sewer Pipe and Fittings	Referenced Standard(s) Pipe	Referenced Standard(s) Fittings
Brass		Х		ASTM B43	
Cast-Iron	X	Х	Х	ASTM A74, ASTM A888, CISPI 301	ASME B16.12, ASTM A74, ASTM A888, CISPI 301
Copper (Type DWV)	X	Х	Х	ASTM B75, ASTM B251, ASTM B302, ASTM B306	ASME B16.23, ASME B16.29
Galvanized Malleable Iron		Х			ASME B16.3
Galvanized Steel		Х		ASTM A53	
PVC (Schedule 40)	X	Х	Х	ASTM D1785, ASTM D2665, ASTM F794 ¹	ASTM D2665, ASTM F794 ¹ , ASTM F1866
Stainless Steel 304		Х		ASME A112.3.1	ASME A112.3.1
Stainless Steel 316L	X	Х	X	ASME A112.3.1	ASME A112.3.1
Vitrified Clay (Extra strength)			Х	ASTM C700	ASTM C700

¹ For Building Sewer Applications (Ord. 2013-XX; Month XX, 2013).

9-404.260 Section 701.2 Amended; Materials; Drainage Fittings.

Section 701.2 of the Uniform Plumbing Code is amended to read as follows:

701.2 Drainage fittings shall be of cast iron, malleable iron, lead, brass, copper, PVC, vitrified clay, or other approved materials having a smooth interior waterway of the same diameter as the piping served and all such fittings shall be compatible with the type of pipe used. (Ord. 2013-XX; Month XX, 2013).

9-404.265 Section 701.3 Amended; Lead.

Section 701.3 of the Uniform Plumbing Code is amended to read as follows: **701.3 Lead.** See Table 14-1. Sheet lead shall be not less than the following:

For safe pans – not less than 2 1/2 pounds per square foot or 1/16 inch thick. For flashings or vent terminals – not less than 2 1/2 pounds per square foot or 1.2 mm thick. Lead bends and lead traps shall not be less than one-eighth (1/8) inch wall thickness. (Ord. 2013-XX; Month XX, 2013).

9-404.270 Section 703.1 Amended; Building Drain (Minimum Size).

Section 703.1 of the Uniform Plumbing Code is amended to read as follows:

703.1 Building Drain (Minimum Size). Building drains serving a single structure shall be a minimum of four inches to the first three-inch or larger stack.

EXCEPTION: Where the sewer comes in above the basement floor or where the house drain runs above the ground, in which case each four-inch sewer shall have one four-inch cleanout at the basement wall and may be reduced to three inch at that point. (Ord. 2013-XX; Month XX, 2013).

9-404.275 Section 704.3 Amended; Fixture Connections.

Section 704.3 of the Uniform Plumbing Code is amended to read as follows:

704.3 Pot sinks, scullery sinks, dishwashing sinks, silverware sinks, commercial dishwashing machines, silverware-washing machines, and other similar fixtures may be connected directly to the drainage system. A floor drain shall be provided adjacent to the fixture, and the fixture shall be connected on the sewer side of the floor drain trap, provided that no other drainage line is connected between the floor drain waste connection and the fixture drain. The fixture and floor drain shall be trapped and vented as required by this Code.

EXCEPTION: Each unit shall discharge through an approved air gap fitting and be separately trapped or discharge indirectly into a properly trapped and vented fixture. (Ord. 2013-XX; Month XX, 2013).

9-404.280 Section 705.1.4 Deleted; Asbestos Cement Sewer Pipe Joints.

Section 705.1.4 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.285 Section 712.1 Amended; Media.

Section 712.1 of the Uniform Plumbing Code is amended to read as follows:

712.1 The piping of the plumbing, drainage, and venting systems shall be tested with water or air. The Authority Having Jurisdiction shall be permitted to require the removal of any cleanouts, etc., to ascertain whether the pressure has reached all parts of the system. After the plumbing fixtures have been set and their traps filled with water, they shall be submitted to a final test. (Ord. 2013-XX; Month XX, 2013).

9-404.290 Section 713.4 Amended; Sewers Required.

Section 713.4 of the Uniform Plumbing Code is amended to read as follows:

713.4 The public sewer may be considered as not being available when such public sewer or any building or any exterior drainage facility connected thereto, is located more than three hundred (300) feet from any proposed building or exterior drainage facility on any lot or premises which abuts and is served by such public sewer. (Ord. 2013-XX; Month XX, 2013).

9-404.295 Section 719.6 Amended; Cleanouts.

Section 719.6 of the Uniform Plumbing Code is amended to read as follows:

719.6 Approved manholes may be installed in lieu of clean outs when first approved by the Administrative Authority. The maximum distance between manholes shall not exceed three hundred (300) feet. (Ord. 2013-XX; Month XX, 2013).

9-404.300 Section 804.1 Amended; Indirect Waste Receptors.

Section 804.1 of the Uniform Plumbing Code is amended to read as follows:

804.1 All plumbing fixtures or other receptors receiving the discharge of indirect waste pipes shall be approved for the use proposed and shall be of such shape and capacity as to prevent splashing or flooding and shall be located where they are readily accessible for inspection and cleaning. No standpipe receptor for any clothes washer shall extend more than forty-two (42) inches, nor less than eighteen (18) inches above its trap. No indirect waste receptor shall be installed in any toilet room, closet, cupboard, or storeroom, nor in any other portion of a building not in general use by the occupants thereof; except stand pipes for clothes washers may be installed in toilet and bathroom areas when the clothes washer is installed in the same room. (Ord. 2013-XX; Month XX, 2013).

9-404.305 Section 807.4 Deleted; Indirect Wastes; Appliances.

Section 807.4 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.310 Section 810.2 Amended; Steam and Hot Water Drainage Condensers and Sumps.

Section 810.2 of the Uniform Plumbing Code is amended to read as follows:

810.2 Sumps, condensers, or intercepting tanks which are constructed of concrete shall have walls and bottom not less than four (4) inches in thickness, and the inside shall be cement plastered not less than one-half (1/2) inch in thickness. Condensers constructed of metal shall be not less than No. 12 U.S. Standard gauge (0.109 inch) and all such metal condensers shall be protected from external corrosion by an approved bituminous coating.

EXCEPTION: Type 3 or greater RCP shall be approved. (Ord. 2013-XX; Month XX, 2013).

9-404.315 Section 901.0 Amended; Vents Required.

Section 901 of the Uniform Plumbing Code is amended to read as follows:

901.0 Vents Required. Each plumbing fixture trap, except as otherwise provided in this Code, shall be protected against siphonage and back-pressure, and air circulation shall be assured throughout all parts of the drainage system by means of vent pipes installed in accordance with the requirements of this chapter and as otherwise required by this Code.

EXCEPTION: Permitted Floor Drains. Two floor drains and one automatic washer drain or one floor drain, one shower drain, and one automatic washer drain may be installed unvented in a building and /or residential unit, provided that the branch is connected at least four feet from the base of any soil stack and all fixtures are located in the building drain fixture level. (Ord. 2013-XX; Month XX, 2013).

9-404.320 Section 903.0 Amended; Vents; Materials.

Section 903.0 of the Uniform Plumbing Code is amended to read as follows: **903.0** Materials.

903.1 Vent pipe shall be cast iron, galvanized steel, galvanized wrought iron, copper, brass, Schedule 40 PVC DWV or other approved materials having a smooth and uniform bore except that:

903.1.1 No galvanized wrought iron or galvanized steel pipe shall be used underground and shall be kept at least six (6) inches above ground.

903.1.2 PVC DWV piping installations shall be installed in accordance with IS 5, IS 9 and Chapter 15 "Firestop Protection for DWV and Storm water Application". Except for individual single family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of not more then 25 and a smoke-developed index of not more than 50, when tested in accordance with the Test for Surface -Burning Characteristics of the Building Materials (See the Building Code standards based on ASTM E-84 and ANSI/UL 723.). (Ord. 2013-XX; Month XX, 2013).

9-404.325 Section 903.2.1 Amended; Use of Copper Tubing.

Section 903.2.1 of the Uniform Plumbing Code is amended to read as follows:

903.2.1 Copper tube for underground drainage and vent piping shall have a weight of not less than that of copper drainage tube type L. (Ord. 2013-XX; Month XX, 2013).

9-404.330 Section 904.1 Amended; Size of Vents.

Section 904.1 of the Uniform Plumbing Code is amended to read as follows:

904.1 The size of vent piping shall be determined from its length and the total number of fixture units connected thereto, as set forth in Table 7-5. The diameter of an individual vent shall not be less than one and one-fourth (1-1/4) inches nor less than one-half (1/2) the diameter of the drain to which it is connected. In addition, the drainage piping of each building and each connection to a public sewer or a private sewage disposal system shall be vented by means of one or more vent pipes, the aggregate cross-sectional area of which shall not be less than that of the largest required building sewer, as determined from Table 7-5.

EXCEPTION: Minimum Size of Stack Vent or Vent Stack. Any structure in which a building drain is installed shall have at least one stack vent or vent stack not less than three inches in diameter. (Ord. 2013-XX; Month XX, 2013).

9-404.335 Section 905.7 Added; Two-inch Minimum Vent.

Section 905.7 is added to the Uniform Plumbing Code to read as follows:

905.7 Two-inch Minimum Vent. Any sanitary drainage system which has a house drain low enough to install fixtures on the lower level shall have two inch (minimum) vent extended below the first floor level where it shall be connected back into the drainage system. (Ord. 2013-XX; Month XX, 2013).

9-404.340 Section 906.6 Amended; Vents; Lead.

Section 906.6 of the Uniform Plumbing Code is amended to read as follows:
906.6 See Table 14-1. Sheet lead shall be not less than the following:
For safe pans – not less than 2 1/2 pounds per square foot or 1/16 inch thick.
For flashings or vent terminals – not less than 2 1/2 pounds per square foot or 1.2 mm thick.

Lead bends and lead traps shall not be less than one-eighth (1/8) inch wall thickness. (Ord. 2013-XX; Month XX, 2013).

9-404.345 Section 906.7 Amended; Frost or Snow Closure.

Section 906.7 of the Uniform Plumbing Code is amended to read as follows:

906.7 Frost or Snow Closure. Where frost or snow closure is likely to occur in locations having minimum design temperature below 0° F vent terminals shall be a minimum of three (3) inches in diameter but in no event smaller than the required vent pipe. The change in diameter shall be made inside the building at least one (1) foot below the roof in an insulated space and terminate not less than ten (10) inches above the roof, or as required by the Administrative Authority. (Ord. 2013-XX; Month XX, 2013).

9-404.350 Section 908.2.1 Amended; Horizontal Wet Venting for Bathroom Groups.

Section 908.2.1 of the Uniform Plumbing Code is amended to read as follows:

908.2.1 Where Permitted. Water closets, bathtubs, showers and floor drains within one (1) or two (2) bathroom groups located on the same floor level shall be permitted to be vented by a wet vent. The wet vent shall be considered the vent for the fixtures and shall extend from the connection of the dry vent along the direction of the flow in the drain pipe to the most downstream fixture drain or trap arm connection to the horizontal branch drain. Each wet-vented fixture drain or trap arm shall connect horizontally to the wet-vented horizontal branch drain. Each individual fixture drain or trap arm shall connect horizontally to the wet-vented horizontal branch drain or shall be provided with a dry vent. The trap to vent distance shall be in accordance with Table 10-1. Only the fixtures within the bathroom groups shall connect to the wet-vented horizontal branch drain or trap arm connections. Any additional fixtures shall discharge downstream of the wet vent system and be conventionally vented. (Ord. 2013-XX; Month XX, 2013).

9-404.355 Section 909.0 Amended; Special Venting for Island Fixtures.

Section 909.0 of the Uniform Plumbing Code is amended to read as follows:

909.0 Special Venting for Island Fixtures. Traps for island sinks and similar equipment shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than the drainboard height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch immediately below the floor and extending to the nearest partition and then through the roof to the open air or may be connected to other vents at a point not less than six (6) inches above the flood level rim of the fixtures served. Drainage fittings shall be used on all parts of the vent below the floor level and a minimum slope of one-quarter (1/4) inch per foot back to the drain shall be maintained. The return bend used under the drainboard shall be a one (1) piece fitting or an assembly of a forty-five (45) degree a ninety (90) degree and a forty-five (45) degree elbow in the order named. Pipe sizing shall be as elsewhere required in this Code. The island sink drain, upstream of the returned vent, shall serve no other fixtures. An accessible cleanout shall be installed in the vertical portion of the foot vent. or connection between the outlet of a plumbing fixture and the trap therefor. Such tailpieces or connections shall be as short as possible, and in no case shall exceed two (2) feet.

EXCEPTION: The foot vent may be eliminated if pipe is one pipe size larger than required. (Ord. 2013-XX; Month XX, 2013).

9-404.360 Section 1001.3 Amended; Traps Required.

Section 1001.3 of the Uniform Plumbing Code is amended to read as follows:

1001.3 No food waste disposal unit shall be installed with any set of restaurant, commercial, or industrial sinks served by a single trap; each such food waste disposal unit shall be connected to a separate trap. Each domestic clothes washer and each laundry tub shall be connected to a separate and independent trap; except that a trap serving a laundry tub may also receive the waste from a clothes washer set adjacent thereto. No clothes washer or laundry tub shall be connected to any trap for a kitchen sink. Connection of laundry tray waste line in a single dwelling unit may be made into the stand-pipe for the automatic clothes washer drain. (Ord. 2013-XX; Month XX, 2013).

9-404.365 Section 1014.3.5 Amended; Construction Requirements.

Section 1014.3.5 of the Uniform Plumbing Code is amended to read as follows:

1014.3.5 Construction Requirements

1014.3.5.1 Purpose. Gravity grease interceptors shall be designed to remove grease from effluent and shall be sized in accordance with this section. Gravity grease interceptors shall also be designed to retain grease until accumulations can be removed by pumping the interceptor. It is recommended that a sample box be located at the outlet end of all gravity grease interceptors so that the Authority Having Jurisdiction can periodically sample effluent quality. A two-way clean out on inlet and outlet of each exterior grease interceptor shall be required. (Ord. 2013-XX; Month XX, 2013).

9-404.370 Section 1101.3 Amended; Storm Drainage; Material Uses.

Section 1101.3 of the Uniform Plumbing Code is amended to read as follows:

1101.3 Rainwater piping placed within the interior of a building or run within a vent or shaft shall be of cast iron, galvanized steel, wrought iron, brass, copper, lead, Schedule 40 PVC DWV, or other approved materials, and changes in direction shall conform to the requirements of Section 706.0. and PVC DWV piping installations shall be installed in accordance with IS 5, IS 9 and Chapter 15 "Fire stop Protection for DWV and Storm water Application". Except for individual single family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of not more then 25 and a smoke-developed index of not more than 50, when tested in accordance with the Test for Surface -Burning Characteristics of the Building Materials (See the Building Code standards based on ASTM E-84 and ANSI/UL 723). (Ord. 2013-XX; Month XX, 2013).

9-404.375 Sections 1101.5 through 1101.10 Deleted; Subsoil Drains.

Sections 1101.5 through 1101.10 of the Uniform Plumbing Code are hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.380 Section 1102.1.2 Amended; Conductors.

Section 1102.1.2 of the Uniform Plumbing Code is amended to read as follows:

1102.1.2 The inside of conductors installed above ground level shall be of seamless copper water tube, Type K, L or M; Schedule 40 copper pipe or Schedule 40 copper alloy pipe; Type DWV copper drainage tube; service weight cast iron soil pipe or hubless cast iron soil pipe; standard weight galvanized steel pipe; or Schedule 40 PVC plastic pipe. (Ord. 2013-XX; Month XX, 2013).

9-404.385 Section 1102.2.2 Amended; Leaders.

Section 1102.2.2 of the Uniform Plumbing Code is amended to read as follows:

1102.2.2 Leaders shall be of seamless copper water tube, Type K, L or M; Schedule 40 copper pipe; Schedule 40 copper alloy pipe; type DWV copper drainage tube; service weight cast iron soil pipe or hubless cast iron soil pipe; aluminum sheet metal, galvanized steel sheet metal or copper sheet metal; standard weight galvanized steel pipe; or Schedule 40 PVC plastic pipe. (Ord. 2013-XX; Month XX, 2013).

9-404.390 Section 1102.5 Deleted; Subsoil Drains.

Section 1102.5 of the Uniform Plumbing Code and all subsections thereof are hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.395 Section 1103.0 Deleted; Traps on Storm Drains and Leaders.

Section 1103.0 of the Uniform Plumbing Code and all subsections thereof are hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.400 Section 1104.3 Deleted; Combining Storm with Sanitary Drainage.

Section 1104.3 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.405 Table 11-1 Amended; Sizing Roof Drains, Leaders, and Vertical Rainwater Piping.

Table 11-1 of the Uniform Plumbing Code is amended to read as follows:

Size of Drain, Leader or Pipe, Inches	Flow, gpm	Maximum Allowable Horizontal Projected Roof Areas Square Feet at Various Rainfall Rates
		6"/hr
2	23	363
3	67	1073
4	144	2307
5	261	4187
6	424	6800
8	913	14,667

TABLE 11-1

Sizing Roof Drains, Leaders, and Vertical Rainwater Piping

TABLE 11-1 (Metric)

Sizing Roof Drains, Leaders, and Vertical Rainwater Piping

Size of Drain Leader or Pipe, mm	Flow, L/s	Maximum Allowable Horizontal Projected Roof Areas Square Meters at Various Rainfall Rates
		150mm/hr
50	1.5	34
80	4.2	100
100	9.1	214
125	16.5	389
150	26.8	632
200	57.6	1363
.		

Notes:

1. The sizing data for vertical conductors, leaders, and drains is based on the pipes flowing 7/24 full.

 For rainfall rates other than those listed, determine the allowable roof area by dividing the area given in the 1 inch/hour (25 mm/hour) column by the desired rainfall rate.

3. Vertical piping may be round, square, or rectangular. Square pipe shall be sized to enclose its equivalent round pipe. Rectangular pipe shall have at least the same cross-sectional area as its equivalent round pipe, except that the ratio of its side dimensions shall not exceed 3 to 1.

(Ord. 2013-XX; Month XX, 2013).

9-404.410 Table 11-3 Deleted; Size of Gutters.

Table 11-3 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.415 Section 1105.4.1 Amended; Roof Drain Flashings.

Section 1105.4.1 of the Uniform Plumbing Code is amended to read as follows:

1105.4.1 Where lead flashing material is used, it shall be a minimum of 2 1/2 pounds per square foot. (Ord. 2013-XX; Month XX, 2013).

9-404.420 Section 1106.3 Deleted; Size of Roof Gutters.

Section 1106.3 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.425 Section 1106.4 Deleted; Side Walls Draining onto a Roof.

Section 1106.4 of the Uniform Plumbing Code is hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.430 Chapters 12, 13 and 15 of the Uniform Plumbing Code Deleted.

Chapters 12, 13 and 15 of the Uniform Plumbing Code are hereby deleted. (Ord. 2013-XX; Month XX, 2013).

9-404.450 Chapter 17 Added; Hydronics.

The Uniform Plumbing Code is amended by adding a new Chapter 17 to read as follows:

CHAPTER 17 HYDRONICS

Part I – Steam and Water Piping.

1701.0 Scope. Steam and water piping systems that are part of a heating or cooling system shall comply with the following requirements:

1701.1 Those portions of piping systems in which the pressure exceeds 160 psig or the temperature exceeds 250°F shall comply with nationally recognized standards.

1701.2 Those portions of piping systems in which the pressure does not exceed 160 psig and the temperature does not exceed 250°F shall comply with the following requirements:

1701.2.1 Materials and Construction.

1701.2.1.1 Pipe. Pipe shall be brass, copper, galvanized or black wrought iron, galvanized or black steel, or other approved materials. Minimum Schedule 40

1701.2.1.2 Tubing. Tubing shall be copper water tube. Minimum Type L

1701.2.1.3 Valves. Valves up through two (2) inches in size shall be brass, malleable iron, or steel bodies. All valves shall be full port type with working parts of noncorrosive metal.

1701.2.1.4 Fittings.

1701.2.1.4.1 Plain screwed fittings shall be brass, bronze, cast-iron, galvanized or black malleable iron, or galvanized or black steel.

1701.2.1.4.2 Fittings for copper tubing shall be wrought copper, wrought bronze, or cast brass.

1701.2.1.4.2.1 Mechanically Formed Tee Fittings. Mechanically extracted collars shall be formed in a continuous operation consisting of drilling a pilot hole and drawing out the tube surface to form a collar having a height not less than three times the thickness of the branch tube wall. The branch tube shall be notched to conform with the inner curve of the run tube and have two dimple/depth stops to ensure that penetration of the branch tube into the collar is of sufficient depth for brazing and that the branch tube does not obstruct the flow in the main line tube. Dimple/depth stops shall be in line with the run of the tube. The second dimple shall be one-fourth (1/4) inch above the first and shall serve as a visual point of inspection. All joints shall be brazed in accordance with Section 212.0. Soft soldered joints shall not be allowed.

1701.2.1.5 Pipe Joint Compound. Pipe joint compound shall be noncorrosive and insoluble in the material being carried in the pipe.

1701.2.1.6 Protective Coatings. Protective coatings shall be watertight, durable, heat resistant, electrically nonconductive, and tightly adherent to the pipe.

1701.2.1.7 Fluxes. Fluxes for solder, sweat, and brazed joints shall be a noncorrosive type and suitable for the use intended.

1701.2.1.8 Insulation. Coverings and insulation used for hot water pipes shall be of material suitable for the operating temperature of the system. The insulation, jackets, and lap-seal adhesives, including pipe coverings and linings, shall have a flame spread index not greater than twenty-five (25) and a smoke-developed index not greater than fifty (50) when tested in accordance with NFPA 255, Method of Test of Burning Characteristics of Building Materials; or in accordance with ASTM E 84, Surface Burning Characteristics of Building Materials; or in accordance with the provisions of UL 723, Test for Surface Burning Characteristics of Building Materials. The specimen preparation and mounting procedures of ASTM E 2231, Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics shall be used. Alternately, materials used for pipe coverings and insulation (including the insulation, jacket, and lap-seal adhesives) shall have a maximum peak heat release rate of 300 kW, a maximum total heat release of 50 MJ, a maximum total smoke release of five-thousand, three-hundred and eighty-two (5,382) square feet and shall not generate flames that extend one (1) foot or more above the top of the vertical portion of the apparatus at any time during the test when tested in accordance with NFPA 274, Standard Test Method to Evaluate Fire Performance Characteristics of Pipe Insulation. Insulation coverings and linings shall not flame, glow, smolder, or smoke when tested in accordance with ASTM C 411, Hot-Surface Performance of High Temperature Thermal Insulation, at the temperature to which they are exposed in service. In no case shall the test temperature be below 250°F.

1701.2.1.9 Flashing Material. Flashings shall be lead, copper, galvanized iron, or other approved materials.

1701.2.1.10 Gaskets. Flange gaskets shall be metal, fiber suitable for service, temperature, and pressure, or other approved materials.

1701.2.1.11 Hangers and Anchors. Hangers and anchors shall be suitable for the use intended.

1701.2.1.12 Sleeves. Sleeves shall be of steel, cast-iron or wrought-iron pipe, or tile.

1701.2.1.13 Standards. All piping, tubing, valves, joints, fittings, devices, and materials shall be free of defects and comply with nationally recognized standards.

1701.2.1.14 Marking. Materials and devices shall be suitably identified. In addition to the incised marking required in the standards, all hard-drawn copper tubing shall be marked. Color coding shall be as follows:

Type L – Blue Type K – Green Type M – Red Type ACR – Blue Type DWV – Yellow **1701.2.2 Fabrication of Joints.** Joints shall be made by the use of fittings except as otherwise permitted in this chapter.

1701.2.2.1 Screwed Joints. Threads on iron pipe size (IPS pipe) shall be standard

taper pipe threads. All burrs shall be removed. Pipe ends shall be reamed or filed out to the full size of bore, and all chips shall be removed.

1701.2.2.2 Solder Joints. Surfaces to be joined by soldering shall be cleaned bright by manual or mechanical means. The joints shall be properly fluxed using a listed soldering flux. Tubing shall be reamed out to the full size of bore.

1701.2.2.3 Welded Joints. Welding shall be performed in accordance with ASME "Boiler and Pressure Vessel Code," Section IX "Welding and Brazing Qualifications."

1701.2.2.4 Flanged Joints. Flanged joints shall be tightened evenly and provided with suitable nuts, bolts, and gaskets.

1701.2.2.5 Mechanical Joints. Mechanical joints shall comply with nationally recognized standards.

1701.2.3 Connections.

1701.2.3.1 Brass and Copper Piping. Joints in brass and copper piping shall be threaded, brazed, welded, flanged, soldered or mechanical type.

1701.2.3.2 Reserved.

1701.2.3.3 Galvanized Wrought-Iron and Galvanized Steel Piping. Joints in galvanized wrought-iron and galvanized steel piping shall be threaded, flanged, or mechanical type.

1701.2.3.4 Black Wrought-Iron Piping. Joints in black wrought-iron piping shall be threaded, brazed, welded, flanged, or mechanical type, except that joints built into or embedded in concrete or masonry shall be welded.

1701.2.3.5 Black Steel Piping. Joints in black steel piping shall be threaded, brazed, welded, flanged, or mechanical type.

1701.2.3.6 Copper Water Tubing. Joints in copper tubing shall be soldered, brazed or flared, except that joints under a building and in or under any concrete slab resting on the ground shall be silver brazed, or equal, and fittings shall be of wrought copper. Mechanically formed tee fittings are also acceptable when brazed and installed in accordance with Section 1701.2.1.4. All solder joints shall be made with solders meeting the standard for solder metal. However, if steam pressures exceed fifteen (15) psig or water pressures exceed thirty (30) psig then 50 percent tin - 50 percent lead solder shall not be used. Solders and fluxes with a lead content which exceeds two-tenths (0.20) of 1 percent shall be prohibited in piping systems conveying potable water.

1701.2.3.7 Piping to Tubing. Joints connecting piping to tubing shall be made with adapter fittings connected as required in Sections 1701.2.3.1 through 1701.2.3.7.

1701.2.4 Changes in Direction. Changes in direction shall be made by the appropriate use of fittings, except that changes in direction in copper tubing may be made with bends having a radius not less than six (6) diameters of the tubing, provided that such bends are made by the use of forming equipment that does not deform or reduce appreciably the cross-sectional area of the tubing.

1701.2.5 Changes in Pipe Sizes. Where different sizes of pipe or pipe and fittings are to be connected, the proper size increasers or reducer fittings shall be used between the two

sizes. When the branch is at least two sizes smaller than the main, weldolets or threadolets may be used in lieu of welding tees. Bushings shall not be used. Eccentric reducing fittings shall be used wherever necessary to provide free drainage of lines.

1701.2.6 Hangers and Supports. All piping and equipment shall be adequately supported to the satisfaction of the Authority Having Jurisdiction. Hot-water and steam piping shall be supported, anchored, and provided with swing joints, expansion loops or joints, or other means to avoid excessive strain on piping, equipment, or the building structure to the satisfaction of the Authority Having Jurisdiction.

1701.2.6.1 Vertical Piping - Attachment. Vertical piping and tubing shall be secured at sufficiently close intervals to keep the pipe in alignment and carry the weight of the pipe and contents.

1701.2.6.2 Horizontal Piping.

1701.2.6.2.1 Supports. Horizontal piping and tubing shall be supported at sufficiently close intervals to keep it in alignment and prevent excessive sagging.

1701.2.6.2.2 In Ground. Piping and tubing in the ground shall be laid on a firm bed for its entire length except when otherwise approved by the Authority Having Jurisdiction. Cement piping shall be provided with adequate thrust blocking.

1701.2.7 Installation.

1701.2.7.1 Same Materials Required. All piping materials used, except valves and similar devices, shall be of a like material, except as otherwise acceptable to the Authority Having Jurisdiction.

1701.2.7.2 Wall Thickness.

1701.2.7.2.1 Piping shall be at least standard-weight brass or copper, Class 150 cast-iron, standard-weight wrought iron, ASTM Schedule 40 steel.

1701.2.7.2.2 Tubing shall be at least Type K - for condensate return lines; Type K - for steam condenser cooling water lines, underground water lines, and aboveground water lines; Type L - for aboveground water lines not embedded in concrete or masonry.

1701.2.7.3 Piping Embedded in Structure. Piping shall not be built into or embedded in concrete or masonry, except where used for radiant panel heating or cooling. Black steel pipe, wrought-iron piping, or Type L copper tubing may be so embedded.

1701.2.7.4 Cutting Structure. Structural members shall not be seriously weakened or impaired by cutting or notching.

1701.2.7.5 Providing for Expansion, Contraction, and Settling. Piping shall be installed so that piping, connections, and equipment shall not be subjected to excessive strains or stresses, and provisions shall be made for expansion, contraction, shrinkage, and structural settlement.

1701.2.7.6 Circulation. Piping shall provide adequate circulation. Piping shall be graded so that all gases can move in the direction of the water flow to a vented section of the system. When sections of a piping system cannot be installed with the required grade, such sections shall be provided with automatic or manual air vents whose discharge is piped to an approved location. Steam traps shall be provided where required.

1701.2.7.7 Underground Piping.

1701.2.7.7.1 Cinders and Other Corrosive Material Fills. All piping passing through or under cinders or other corrosive fill materials shall be suitably protected from corrosion.

Exception: Where a soil analysis by an acceptable testing laboratory shows the soil to be free of materials that may corrode the pipe to be installed, the requirements for protective coatings may be waived.

1701.2.7.7.2 Beneath Buildings. Piping installed within a building and in, or under, a concrete floor slab resting on the ground shall be installed as follows:

Ferrous Piping. Ferrous piping shall be galvanized and covered with an approved protective coating.

Copper Tubing. Copper tubing shall be installed without joints, where possible.

1701.2.7.7.3 Outside of Buildings.

Black Wrought Iron and Black Steel. Black wrought-iron and black steel piping shall be protected against corrosion by an approved pipe wrapping.

1701.2.7.7.4 Under Walls or Foundations. Piping passing under walls or foundations shall be protected from breakage.

1701.2.7.7.5 Openings into Buildings. Voids around piping passing through concrete or masonry floors or walls shall be appropriately sealed at the opening into the building. Sleeves shall be provided at such openings.

1701.2.7.8 Above ground Piping.

1701.2.7.8.1 Sleeves. Sleeves shall be provided to protect all piping through concrete and masonry walls.

1701.2.7.8.2 Insulation. The temperature of surfaces within normal reach of building occupants shall not exceed 140°F unless they are protected by suitable insulation. Where sleeves are installed, any insulation shall continue full-sized through them.

1701.2.7.8.3 Lining. Combustible portions of unventilated spaces that contain piping or devices whose outside temperature, including insulation, exceeds 140° F, shall be lined with No. 24 gauge (0.021 inch) steel, or one-fourth (1/4) inch thick insulating millboard.

1701.2.7.8.4 Clearance. There shall be at least one (1) inch clearance from the structure around steam pipes.

1701.2.7.8.5 Exposed Piping. Exposed piping subject to excessive corrosion, erosion, or mechanical damage shall be suitably protected.

1701.2.7.8.6 Roof and Wall Openings. Joints at the roof around pipes or appurtenances shall be made water-tight by the use of approved flashings or flashing material. Exterior wall openings shall be made water-tight.

1701.2.7.8.7 Drainage. Means shall be provided to drain all piping.

1701.2.7.8.8 Freezing. Where required, piping outside of a building or in an exterior wall shall be protected from freezing.

1701.2.7.9 Trenches and Tunnels.

1701.2.7.9.1 Protection of Structure. Trenches deeper than the footings of a building or structure and paralleling the same shall be at least 45 degrees therefrom, or approved per Section 105.0.

1701.2.7.9.2 Mechanical Equipment. Use of mechanical excavating equipment is prohibited within two (2) feet of existing piping or appurtenances.

1701.2.7.9.3 Reserved.

1701.2.7.9.4 Backfilling. Excavations shall be completely backfilled as soon after inspection as practicable. Adequate precaution shall be taken to ensure proper compaction of backfill around piping without damage to such piping. Trenches shall be backfilled in thin layers to twelve (12) inches above the top of the piping with clean earth that shall not contain stones, boulders, cinderfill, or other materials that would damage, break the piping, or cause corrosive action. Mechanical devices, such as bulldozers, graders, etc., may then be used to complete backfill to grade. Fill shall be properly compacted. Suitable precautions shall be taken to ensure permanent stability for pipe laid in filled or made ground.

1701.2.8 Pressure Testing.

1701.2.8.1 Responsibility. The equipment, material, and labor necessary for inspection or test shall be furnished by the person to whom the permit is issued or by whom inspection is requested.

1701.2.8.2 Media. The piping shall be tested with water.

1701.2.8.3 Pressure Test. Piping shall be tested with a hydrostatic pressure of not less than 100 psig but at least fifty (50) psig greater than operating pressure. This pressure shall be maintained for at least thirty (30) minutes. Required tests shall be conducted by the owner or contractor in the presence of an authorized inspector. The piping being tested shall remain exposed to the inspector and shall not leak during the test.

1701.2.8.4 Moved Structures. Piping systems of a building and parts thereof that are moved from one foundation to another shall be completely tested as prescribed elsewhere in this section for new work, except that walls or floors need not be removed during such test when equivalent means of inspection are provided.

1701.2.8.5 Test Waived. No test or inspection shall be required where a system, or part thereof, is set up for exhibition purposes and has no connection with a water system.

1701.2.8.6 Exceptions. In cases where it would be impractical to provide the aforementioned tests, or for minor installations and repairs, the Authority Having Jurisdiction shall have the authority to make such inspection as it deems necessary.

1701.3 Those portions of the hot water piping systems in which the continuous pressure-temperature relationship does not exceed the following may be constructed of cross-linked polyethylene (PEX) tubing of SDR-9 conforming to specifications ASTM F876 and F877.

Temperature		Pressure	
ÊF	(C)	Psi	(Kpa)
73	(23)	160	(1,103)
180	(82)	100	(689)
200	(93)	80	(550)

1701.3.1 Materials and Construction.

1701.3.1.1 PEX Tubing. Tubing shall be copper tube size, SDR-9 cross-linked polyethylene conforming to ASTM F876. PEX tubing and fittings shall be installed in accordance with the manufacturers' recommended installation instructions.

1701.3.1.2 Fittings. Fittings shall be manufactured and tested in accordance with the nationally recognized standards.

1701.3.1.3 Insulation. Coverings and insulation used for hot water pipes shall be of material suitable for the operating temperature of the system. The insulation, jackets, and lap-seal adhesives, including pipe coverings and linings, shall have a flame spread index not greater than twenty-five (25) and a smoke-developed index not greater than fifty (50) when tested in accordance with NFPA 255, Method of Test of Burning Characteristics of Building Materials; or in accordance with ASTM E 84, Surface Burning Characteristics of Building Materials; or in accordance with the provisions of UL 723, Test for Surface Burning Characteristics of Building Materials. The specimen preparation and mounting procedures of ASTM E 2231, Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics shall be used. Alternately, materials used for pipe coverings and insulation (including the insulation, jacket, and lap-seal adhesives) shall have a maximum peak heat release rate of 300 kW, a maximum total heat release of 50 MJ, a maximum total smoke release of 500 m2 and shall not generate flames that extend one (1) foot or more above the top of the vertical portion of the apparatus at any time during the test when tested in accordance with NFPA 274, Standard Test Method to Evaluate Fire Performance Characteristics of Pipe Insulation. Insulation coverings and linings shall not flame, glow, smolder, or smoke when tested in accordance with ASTM C 411, Hot-Surface Performance of High Temperature Thermal Insulation, at the temperature to which they are exposed in service. In no case shall the test temperature be below 250°F.

1701.3.1.4 Hangers, Sleeves, and Anchors. Hangers, sleeves, and anchors shall be suitable for the use intended as recommended by the manufacturers' installation instructions.

1701.3.1.5 Standards. All piping, tubing, and fitting materials shall be free of defects and comply with nationally recognized standards approved by the Authority Having Jurisdiction.

1701.3.1.6 Marking. Materials and devices shall be suitably identified.

1701.3.2 Fabrication of Joints. All joining methods shall meet the performance requirements set forth in ASTM F877. Joints shall be made by one or more of the following methods:

1701.3.2.1 Crimp/Insert Fittings. Insert fittings of metal with crimp rings of copper may be used.

1701.3.2.2 Compression Fittings. Metallic fittings utilizing compression seals are acceptable.

1701.3.2.3 Cold Expansion Fittings. Cold expansion fittings utilizing a PEX reinforcing ring or metal compression sleeve may be used.

1701.3.2.4 Transition Fittings. Connections to other piping materials shall be made of approved types of special transition fittings.

1701.3.3 Changes in Direction. Changes in direction shall be made by the appropriate use of fittings or with pipe bends having a radius of not less than six (6) times the outside diameter of the tubing. No forming equipment or heating is required.

1701.4 Those portions of the hot water piping systems in which the continuous pressure temperature relationship does not exceed the following shall be permitted to be constructed of

cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) piping conforming to specification ASTM F1281.

Temperature		Pressure		
Ê F	(C)	Psi	(Kpa)	
73	(23)	200	(1,380)	
180	(82)	125	(862)	
200	(93)	100	(690)	

1701.4.1 Materials and Construction.

1701.4.1.1. PEX-AL-PEX. Piping shall be cross linked polyethylene/aluminum/ cross linked polyethylene conforming to ASTM F 1281. PEX-AL-PEX piping and fittings shall be installed in accordance with the manufacturers' recommended installation instructions.

1701.4.1.2 Fittings. Fittings shall be manufactured and tested in accordance with the nationally recognized standards.

1701.4.1.3 Insulation. Coverings and insulation used for hot water pipes shall be of materials suitable for the operating temperature of the system. The insulation, jackets, and lap-seal adhesives shall be tested as a composite developed rating of not more than fifty (50) when tested in accordance with Building Code standards.

1701.4.1.4 Hangers, Sleeves, and Anchors. Hangers, sleeves, and anchors shall be suitable for the use intended as recommended by the manufacturers' installation instructions.

1701.4.1.5 Standards. All piping and fitting materials shall be free of defects.

1701.4.1.6 Markings. Materials and devices shall be suitably identified.

1701.4.2 Fabrication of Joints. All joining methods shall meet the performance requirements set forth in ASTM F1281. Joints shall be made by one or more of the following methods:

1701.4.2.1 Crimp/Insert Fittings. Insert fittings of metal with crimp rings of copper may be used.

1701.4.2.2 Mechanical Compression Fittings. Metallic fittings utilizing a split ring and compression nut are acceptable.

1701.4.2.3 Transition Fittings. Connections to other piping materials shall be made of approved types of special transition fittings.

1701.4.3 Changes in Direction. Changes in direction shall be made by fittings or with pipe bends having a radius of not less than five (5) times the outside diameter of the piping. No forming equipment or heating is required.

Part II – Hydronic Panel Heating Systems

1702.0 Scope. The purpose of this part is to establish and provide minimum standards for the protection of public health, welfare, and property by regulating and controlling the design and installation of panel heating systems.

1703.0 Installation.

1703.1 Panel systems shall be designed and installed in accordance with the requirements of this code.

1703.2 Piping to be embedded in concrete shall be pressure-tested prior to pouring concrete. During pouring, the pipe shall be maintained at the proposed operating pressure.

1704.0 Piping Materials.

1704.1 Panel(s). Piping for heating panels shall be standard-weight steel pipe, Type L copper tubing, or approved plastic pipe or tubing rated at 100 psi at 180°F.

1704.2 Hot-Water Supply Lines. Piping for hot water supply lines shall be installed in accordance with the requirements of this code.

1705.0 Piping Joints. Joints of pipe or tubing forming the panel that are embedded in a portion of the building, for example, concrete or plaster, shall be in accordance with the following:

1705.1 All welding shall be performed in accordance with ASME "Boiler and Pressure Vessel Code," Section IX "Welding and Brazing Qualifications."

1705.2 Copper tubing joined with brazing alloys having a melting point above 1,000°F..

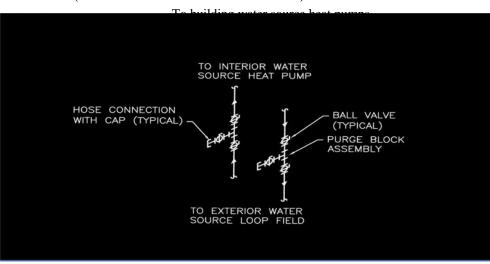
1706.0 Heat Sources. Heat sources for generating hot water for use in hydronic panel radiant heating systems shall include conventional fossil fuel, hot water boilers, electrical resistance heated boilers, air/water or water/water heat pumps, or solar heat collector systems. The latter system may include booster or backup heating units. Systems shall be protected by pressure-temperature relief valves as outlined in this code.

1707.0 Testing. Approved piping or tubing installed as a portion of a radiant panel system that will be embedded in the walls, floors, or ceilings of the building it is designed to heat shall be tested for leaks by the hydrostatic test method by applying at least 100 psi water pressure or 1.5 times the operating pressure, whichever is greater. For metal piping, a pressure gauge shall be connected to the piping, and after the pressure has been raised, the hydrostatic pressure connection shall be discontinued and the systems under pressure shall remain at the test pressure for a sufficient period of time to determine whether any leaks exist in the system. Leaks shall be indicated by the pressure drop on the gauge. The minimum test period shall be thirty (30) minutes. For flexible plastic piping, the test pressure shall be applied for a period of thirty (30) minutes. During this time, the system shall be maintained at the test pressure by the periodic addition of makeup water to compensate for the initial stretching of the pipe. The system shall then be visually inspected for tightness. Tests for tightness of radiant piping systems shall be witnessed by the Authority Having Jurisdiction.

In addition a geothermal system from the loop header inside or outside the building shall comply with the following requirements: The Header and valves connected to the well or loop field are within the scope of this code.

1707.1 Flushing. All hydronic piping systems shall be thoroughly flushed before the system is commissioned.

Note: Purge block shall be located at the building entrance



(foundation wall or basement floor)

(Ord. 2013-XX §90; Month XX, 2013).

9-404.455 Appendix D, Table D-1, State of Nebraska, Amended; Sizing Stormwater Drainage Systems.

Appendix D, Table D-1, State of Nebraska, of the Uniform Plumbing Code is amended to read as follows:

TABLE D-1

Maximum Rates of Rainfall for Various Cities

States and Cities	Storm Drainage 60-Minute Duration, 100-Year Return				
			<u>NEBRASKA</u>	<u>Inches/Hour</u>	<u>GPM/Square Foot</u>
			Omaha	3.6	0.037
Hickman	6.0	0.062			
North Platte	3.5	0.036			
Scottsbluff	2.8	0.029			

(Ord. 2013-XX; Month XX, 2013).

9-404.460 Appendix E 9 Amended; M/H Lot Drainage Inlet and Lateral.

Appendix E 9 of the Uniform Plumbing Code is amended to read as follows:

E 9 M/H Lot Drainage Inlet and Lateral.

(a) Size. Each lot shall be provided with a drainage inlet not less than four (4) inches in diameter.

(b) The lateral line from the inlet to the sewage drain line shall slope at least one-fourth (1/4) inch per foot All joints shall be watertight.

(c) All materials used for drainage connections between a M/H and the lot drainage inlet shall be semi-rigid, corrosion resistant, non-absorbent and durable. The inner surface shall be smooth.

(d) Provision shall be made for plugging or capping the sewage drain inlet when a M/H does not occupy the lot. Surface drainage shall be diverted away from the inlet. The rim of the inlet shall extend not more than four (4) inches above ground elevation. (Ord. 2013-XX; Month XX, 2013).

9-404.465 Appendix E 11 Amended; Pipe Size.

Appendix E 11 of the Uniform Plumbing Code is amended to read as follows:

E 11 Pipe Size

(a) Each M/H lot drainage inlet shall be assigned a waste loading value of twelve (12) fixture units and each park drainage system shall be sized according to Table E-1 or as provided herein. Drainage laterals shall be not less than four (4) inches in diameter.

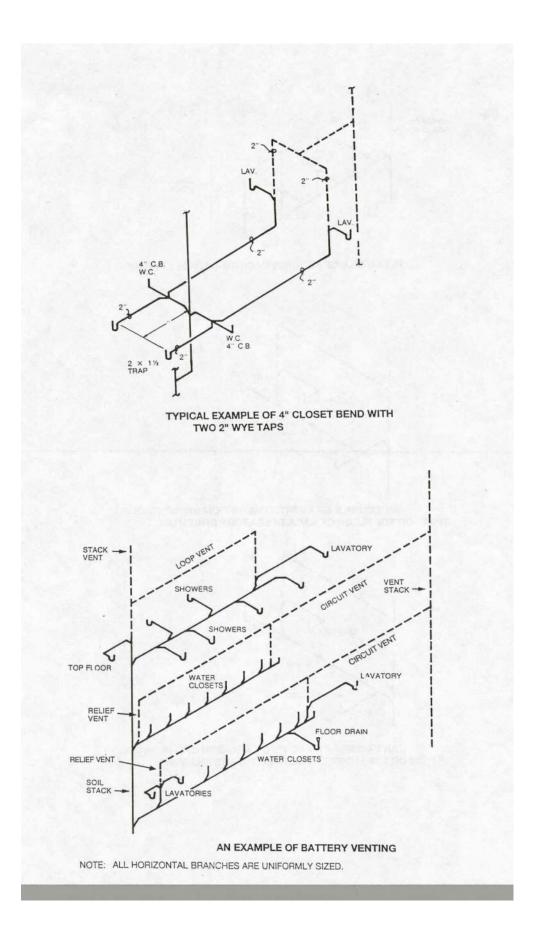
(b) A park drainage system which exceeds the fixture unit loading of Table E-1 or in which the grade and slope of drainage pipe does not meet the minimum specified in Table E-2 shall be designed by a registered professional engineer. (Ord. 2013-XX; Month XX, 2013).

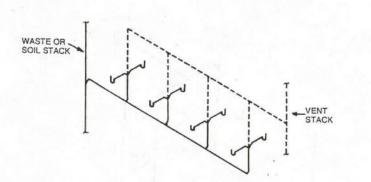
9-404.470 Appendix L 7.0 Added; Alternate Plumbing System Drawings.

The Uniform Plumbing Code is amended by adding Appendix L 7.0 to read as follows:

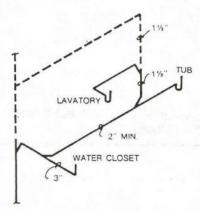
L 7.0 Alternate Plumbing System Drawings.

The following alternate plumbing system drawings are examples under the Uniform Plumbing Code: (*Drawings continued on next page*). (Ord. 2013-XX; Month XX, 2013).

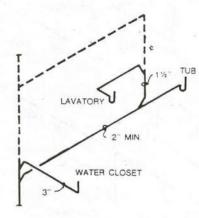




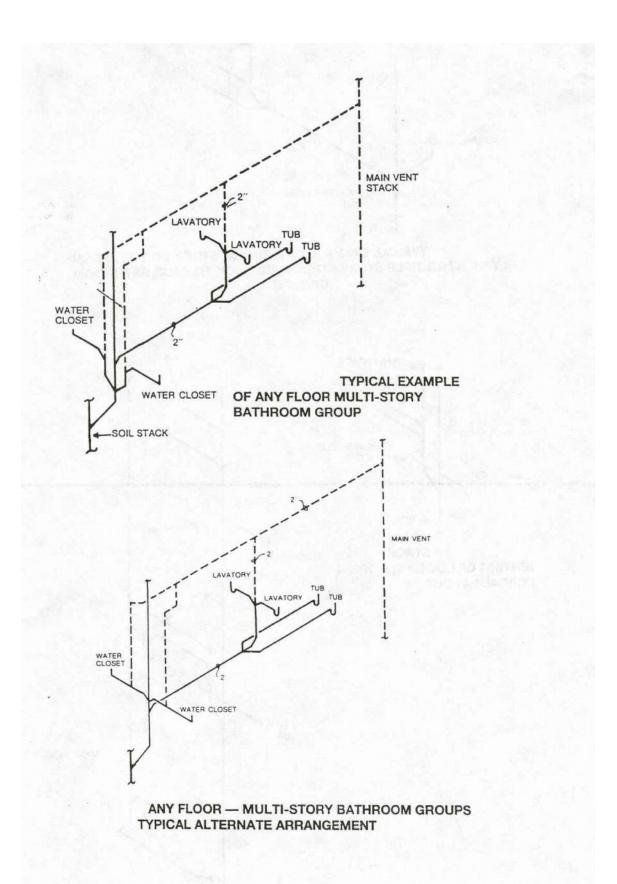
ONE EXAMPLE OF FIXTURES BACK-TO-BACK IN BATTERY

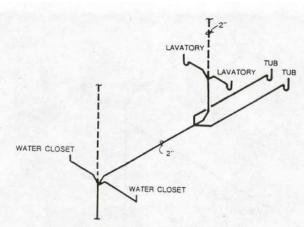


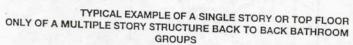
AN EXAMPLE OF A VENTED BATHROOM GROUP SINGLE STORY OR TOP FLOOR OF A MULTIPLE STORY STRUCTURE

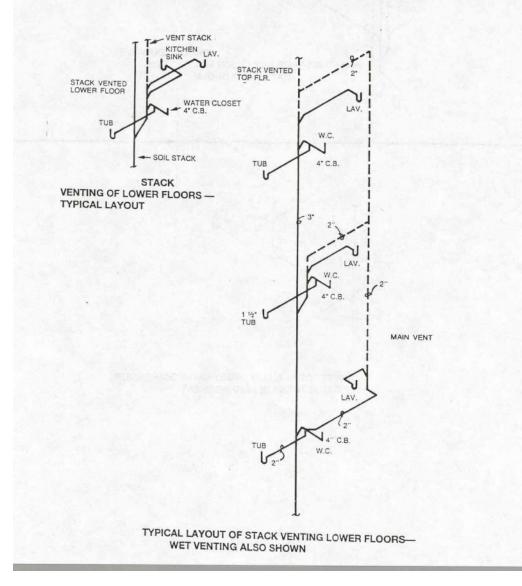


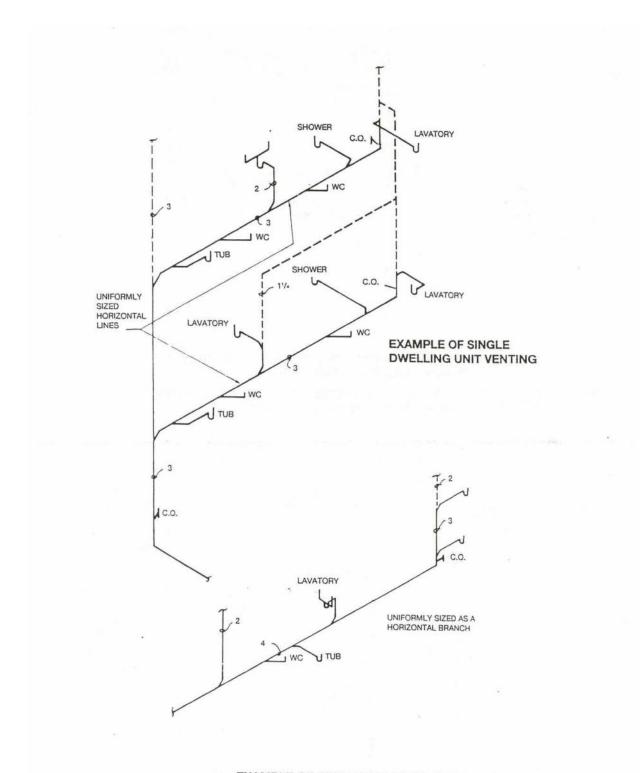
AN EXAMPLE OF A VENTED BATHROOM GROUP SINGLE STORY OR TOP FLOOR OF MULTIPLE STORY STRUCTURE





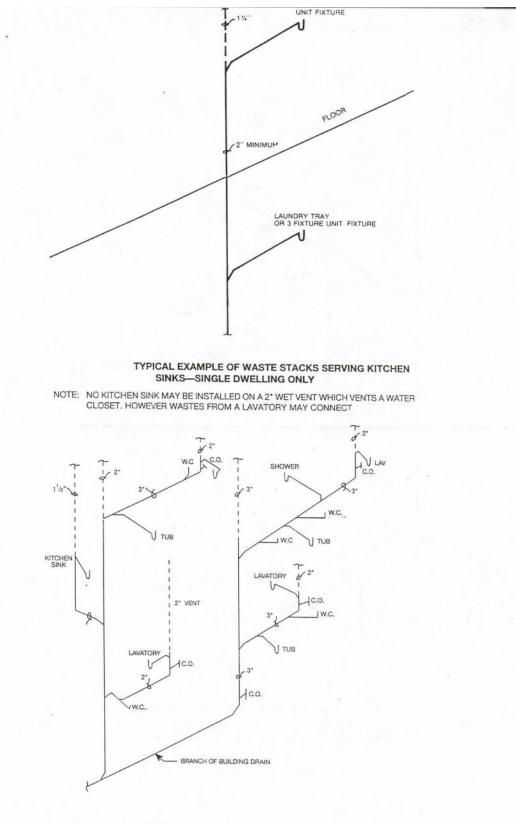




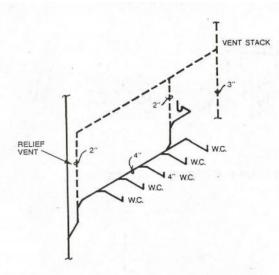


EXAMPLE OF SINGLE DWELLING UNIT VENTING

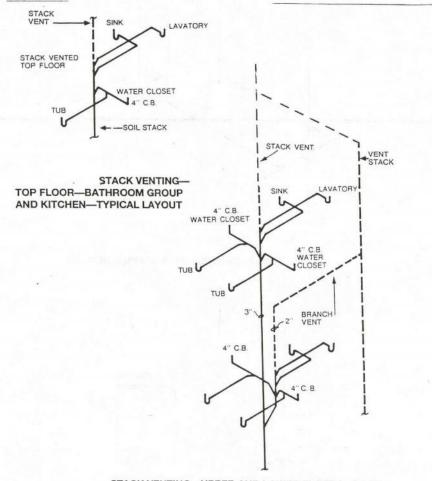
NOTE: VENT SIZING AS PER TABLE HORIZONTAL BRANCH LINES SHALL BE UNIFORMLY SIZED AS PER TABLE



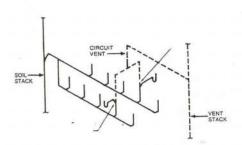
EXAMPLE OF SINGLE DWELLING UNIT VENTING



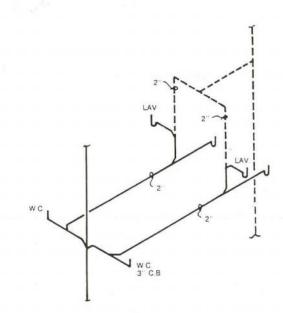
SIZING OF CIRCUIT OR LOOP VENT-TYPICAL EXAMPLE



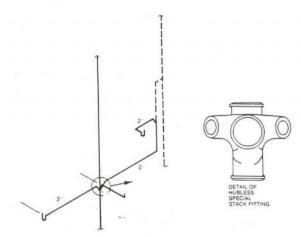
STACK VENTING—UPPER AND LOWER FLOORS—BACK-TO-BACK BATHROOM GROUPS AND KITCHENS—TYPICAL LAYOUT



AN EXAMPLE OF DUAL BRANCHES



TYPICAL EXAMPLE OF 45°CONNECTION



APPLICATION OF SPECIAL STACK FITTING — TYPICAL EXAMPLE