

2009

UNIFORM PLUMBING CODE®



READ ME
TABLE OF CONTENTS
SEARCH



An American National Standard
IAPMO/ANSI UPC 1 – 2009

Notice

The 2009 edition of the *Uniform Plumbing Code* is developed through a consensus standards development process approved by the American National Standards Institute. This process brings together volunteers representing varied viewpoints and interests to achieve consensus on plumbing issues. While the International Association of Plumbing and Mechanical Officials (IAPMO) administers the process and establishes rules to promote fairness in the development of consensus, it does not independently test, evaluate, or verify the accuracy of any information or the soundness of any judgments contained in its codes and standards.

IAPMO disclaims liability for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, or reliance on this document. IAPMO also makes no guaranty or warranty as to the accuracy or completeness of any information published herein.

In issuing and making this document available, IAPMO is not undertaking to render professional or other services for or on behalf of any person or entity. Nor is IAPMO undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances.

An American National Standard

IAPMO/ANSI UPC 1-2009

2009 UNIFORM PLUMBING CODE[®]



2009 UPC Foreword

The advantages of a uniform plumbing code adopted by various local jurisdictions has long been recognized. Disorder in the industry as a result of widely divergent plumbing practices and the use of many different, often conflicting, plumbing codes by local jurisdictions influenced the Western Plumbing Officials Association (now the International Association of Plumbing and Mechanical Officials [IAPMO]) to form a committee of plumbing inspectors, master and journeyman plumbers, and sanitary and mechanical engineers, assisted by public utility companies and the plumbing industry to create a basic plumbing document for general use. The product of this effort, the first edition of the *Uniform Plumbing Code*[™] (UPC[™]) was officially adopted by IAPMO in 1945. The widespread use of this code over the past five decades by jurisdictions throughout the United States and internationally is testament to its merit.

With the publication of the 2003 Edition of the *Uniform Plumbing Code*, another significant milestone was reached. For the first time in the history of the United States, a plumbing code was developed through a true consensus process. The 2009 edition represents the most current approaches in the plumbing field and is the third edition developed under the ANSI consensus process. Contributions to the content of the code were made by every segment of the built industry, including such diverse interests as consumers, enforcing authorities, installers/maintainers, labor, manufacturers, research/standards/testing laboratories, special experts, and users.

The UPC is designed to provide consumers with safe and sanitary plumbing systems while, at the same time, allowing latitude for innovation and new technologies. The public at large is encouraged and invited to participate in IAPMO's open consensus code development process. This code is updated every three years. A code development timeline and other relevant information is available at IAPMO's website at www.iapmo.org.

The *Uniform Plumbing Code* is dedicated to all those who, in working to achieve "the ultimate plumbing code," have unselfishly devoted their time, effort, and personal funds to create and maintain this, the finest plumbing code in existence today.

The 2009 *Uniform Plumbing Code* is supported by the American Society of Sanitary Engineering (ASSE), the Mechanical Contractors Association of America (MCAA), the Plumbing-Heating-Cooling Contractors National Association (PHCC-NA), the United Association (UA), and the World Plumbing Council (WPC). 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. Further, the logos of these associations indicates the support of IAPMO's open, consensus process being used to develop IAPMO's codes and standards.

The addresses of the organizations are as follows:

ASSE – 901 Canterbury Road, Suite A • Westlake, OH 44145-7201 • (440) 835-3040

Green Plumbers – 4153 Northgate Blvd, Suite 1 • Sacramento, CA 95834 • (888) 929-6207

MCAA – 1385 Piccard Drive • Rockville, MD 20850 • (301) 869-5800

PHCC-NA – PO Box 6808 • Falls Church, VA 22046 • (800) 533-7694

UA – 901 Massachusetts Avenue NW • Washington, DC 20001 • (202) 628-5823

WPC – WPC Secretary • c/o Mechanical Contractors Association of Alberta

#204 2725-12 St. NE Calgary • Alberta T2E 7J2, Canada • +1-40-325-072-37

P. O. Box 2005 • Marmion, Western Australia 6020 • +61-8-9448-0430

Tentative Interim Amendment (TIA)

A Tentative Interim Amendment (TIA) to any Document may be processed if the Council Secretary determines, after a preliminary review, and consultation with the appropriate Chair, that the Amendment appears to be of an emergency nature requiring prompt action and has the endorsement of a Member of the involved Technical Committee.

Section 204.0 Bathroom – This Tentative Interim Amendment (TIA) was issued on August 23, 2012.

Section 204.0 Bathroom Group – This Tentative Interim Amendment (TIA) was issued on August 23, 2012.

Section 206.0 Dry Vent – This Tentative Interim Amendment (TIA) was issued on August 23, 2012.

Section 211.0 Insanitary – This Tentative Interim Amendment (TIA) was issued on January 23, 2009.

Section 224.0 Vent Pipe – This Tentative Interim Amendment (TIA) was issued on August 23, 2012.

Section 405.2 Prohibited Urinals – This Tentative Interim Amendment (TIA) was issued on January 23, 2009.

Section 908.2 through 908.2.1.5 Horizontal Wet Venting for a Bathroom Group – This Tentative Interim Amendment (TIA) was issued on August 23, 2012.

Section 1214.6 through 1214.6.4 Purging Requirements – This Tentative Interim Amendment (TIA) was issued on January 7, 2011.

COMMITTEE ON UNIFORM PLUMBING CODE

These lists represent the membership at the time the Committee was balloted on the final text of this edition. Since that time, changes in the membership may have occurred.

IAPMO Standards Council

J. Richard Wagner, *Chairman*
The Poole & Kent Company, [SE]

Kevin Cotter, UA Local 12 [L]
Bob Courtner, State of California [U]
Jim Crawford, City of Vancouver [U]
John Garvelink, Commercial Design Engineering Ltd. [I/M]

Ron George, Ron George Design & Consulting Services [SE]
Dave Levanger, Carbon County, Utah [E]
Phil Ribbs, PHR Consultants [SE]
Terry Swisher, State of Oregon [E]

Nonvoting

Gabriella M. Davis, Secretary
International Association of Plumbing and Mechanical Officials

Lynne Simnick, Recording Secretary
International Association of Plumbing and Mechanical Officials

IAPMO Uniform Plumbing Code Technical Committee

Tim Collings, *Chairman*
Salt Lake City, Utah, [E]

Rand Ackroyd, Rand Engineering [M]
Rep. Plumbing and Drainage Institute
Bob Adler, City of San Jose, California [E]
Julius Ballanco, JB Engineering/Code Consultant PC [SE]
Rep. American Society of Plumbing Engineers
Sylvanus Bloice, Roots Plumbing Services [I/M]
Tim Brink, Mechanical Contractors Association of America [I/M]
Jeremy Brown, NSF International [R/S/T]
Lawrence Brown, National Association of Home Builders [U]
Percy Brown, Maine Plumbers Examining Board [E]
Paul Cabot, American Gas Association [U]
Ian Chang, Intertek Testing Services [R/S/T]
Richard Church, Plastic Pipe and Fittings Association [M]
Rickey Fabra, Plumbers & Steamfitters Local [L]
John Fischer, County of St. Louis [E]

Scott Hamilton, United Association [L]
Theodore Lemoff, NFPA International [R/S/T]
William LeVan, Cast Iron Soil Pipe Institute [M]
Shawn Martin, Plumbing Manufacturers Institute [M]
Nasser Nikravi, State of California, OSHPD [E]
Thomas Pape, Alliance for Water Efficiency [C]
Arnold Rodio, Pace Setter Plumbing [I/M]
Anthony Scarano, Plastics Piping Consultant [SE]
Larry Soskin, Ace Duraflo [I/M]
Jim Stack, Plumbing-Heating-Cooling Contractors National Association [I/M]
Joseph Sternola, National Propane Gas Association (NPGA) [U]
Amir Tabakh, City of Los Angeles [E]
John Taecker, Underwriters Laboratories [R/S/T]
April Trafton, Donald Dickerson Associates [SE]

Alternates

Michael Cudahy, Plastic Pipe and Fittings Association [M]
James Dingman, Underwriters Laboratories [R/S/T]
Richard Emerson, Plumbing Manufacturers Institute [M]
Nasrin Kashefi, NSF International [R/S/T]
Doug Kirk, Plumbing-Heating-Cooling Contractors National Association [I/M]

Ray Moore, American Society of Plumbing Engineers [SE]
James Pavesic, United Association [L]
Michael Tharpe, City of Los Angeles [E]
James Walls, Cast Iron Soil Pipe Institute [M]
Mike Wynne, Plumbers & Steamfitters Local [L]

Nonvoting

Ron Rice, Ex-Officio, IAPMO [E]

Lynne Simnick, IAPMO Staff Liaison

COMMITTEE MEMBERSHIP CLASSIFICATION ABBREVIATIONS

These classifications apply to Technical Committee members and represent their principal interest in the activity of a committee.

- M** *Manufacturer*: A representative of a maker or marketer of a product, assembly or system, or portion thereof, that is affected by the standard.
U *User*: A representative of an entity that is subject to the provisions of the standard or that voluntarily uses the standard.
I/M *Installer/Maintainer*: A representative of an entity that is in the business of installing or maintaining a product, assembly or system affected by the standard.
L *Labor*: A labor representative or employee concerned with safety in the workplace.
R/S/T *Research/Standards/Testing Laboratory*: A representative of an independent research organization; an organization that develops codes, standards or other similar documents; or an independent testing laboratory.
E *Enforcing Authority*: A representative or an agency or an organization that promulgates and/or enforces standards.
C *Consumer*: A person who is, or represents, the ultimate purchaser of a product, system, or service affected by the standard, but who is not included in the *User* classification.
SE *Special Expert*: A person not representing any of the previous classifications, but who has special expertise in the scope of the standard or portion thereof.

FORM FOR PROPOSALS ON IAPMO UPC/UMC COMMITTEE DOCUMENTS

NOTE: All proposals MUST be received by 5:00 PM PST/PDST on February 1, 2010.

For further information on the standards-making process, please contact Codes and Standards Administration at 909-472-4110.

For technical assistance, please call IAPMO at 909-230-5535 or 909-472-4111.

FOR OFFICE USE ONLY

LOG # : _____

DATE REC'D: _____

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL

Please indicate in which format you wish to receive your ROP/ROC: Download* CD-ROM

*Note: In choosing the download option, you intend to view the ROP/ROC from our website. NO CD-ROM will be sent to you.

Date: _____ Name: _____ Telephone #: _____

Company: _____

Street Address: _____ City: _____ State: _____ Zip: _____

Please Indicate Organization Represented (if any): _____

1. IAPMO Document Title _____ IAPMO NO. & Year _____

Section/Paragraph _____

2. Proposal Recommends (check one): New Text Revise Text Delete Text

3. **Proposal** (Include proposed new wording, or identification of wording to be deleted): [Note: Proposed text should be in legislative format: i.e., use underscore to denote wording to be inserted (inserted wording) and strike-through to denote wording to be deleted (~~deleted wording~~).] Please note if you are referencing a standard or other publication, please provide two copies.

4. **Statement of Problem and Substantiation for Proposal:** [Note: State the problem that will be resolved by your recommendations; give the specific reason for your proposal, including copies of tests, research papers, etc. If more than 200 words, it may be abstracted for publication.]

5. **This proposal is original material.** [Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought, or research and, to the best of his/her knowledge, is not copied from another source.]

This proposal is not original material, its source (if known) is as follows: _____

I hereby grant the IAPMO all and full rights in copyright, in this proposal, and I understand that I acquire no rights in any publication of IAPMO in which this proposal in this or another similar or analogous form is used.

Signature (Required): _____

IAPMO CODES DEPARTMENT FAX • (909) 472-4198 or (877) 852-6337
Mail to: Code Development • IAPMO • 5001 E Philadelphia Street • Ontario • CA • 91761-2816
Email to: codechange@iapmo.org

INSTRUCTIONS FOR SUBMITTING PROPOSALS – PLEASE READ CAREFULLY –

1. Type or print in BLACK ink.
2. Indicate the title of the document and the document year. Also indicate the specific section or paragraph that the proposed amendment applies to.
3. Check the appropriate box to indicate whether this proposal recommends adding new text, revising existing text, or deleting text.
4. In the space identified as “Proposal”, indicate the exact wording you propose as new or revised text, or the text you propose be deleted.
5. In the space titled “Statement of Problem and Substantiation for Proposal”, state the problem that will be resolved by your recommendation and give the specific reason for your proposal. Include copies of test results, research papers, fire experience, or other materials that substantiate your recommendation. [See note below, item (f).]
6. Check the appropriate box to indicate whether or not this proposal is original material, and, if it is not, indicate the source of the material.
7. Sign the proposal.

If supplementary material (photographs, diagrams, reports, etc.) is included, you may be required to submit sufficient copies for all members and alternates of the technical committee. For publication in the *Report on Proposals*, the technical committee is authorized to abstract the “Statement of Problem and Substantiation for Proposal” if it exceeds 200 words.

NOTE: The IAPMO Regulations Governing Committee Projects in Paragraph 4-3.3 state: Each proposal shall be submitted to the Council Secretary and shall include:

- (a) identification of the submitter and his or her affiliation (i.e., technical committee, organization, company), where appropriate;
- (b) identification of the document, edition of the document, and paragraph of the document to which the proposal is directed;
- (c) the proposed text of the proposal, including the wording to be added, revised (and how revised), or deleted;
- (d) a statement of the problem and substantiation for proposal;
- (e) the signature of the submitter; and
- (f) two copies of any document(s) (other than an IAPMO document) being proposed as a reference standard or publication (see 3-3.7).

TABLE OF CONTENTS

Chapter 1 Administration	1	310.4	Installation Practices	23
101.0 Title, Scope, and General	1	311.0	Prohibited Fittings and Practices	23
101.1 Title	1	311.8	Screwed Fittings	23
101.2 Purpose	1	312.0	Independent Systems	24
101.3 Plans Required	1	313.0	Protection of Piping, Materials, and Structures	24
101.4 Scope	1	313.5	Protectively Coated Pipe	24
101.5 Application to Existing Plumbing System	2	313.8	Waterproofing of Openings	24
102.0 Organization and Enforcement	2	313.10	Sleeves	24
102.1 Authority Having Jurisdiction	2	313.12	Ratproofing	24
102.2 Duties and Powers of the Authority Having Jurisdiction	2	314.0	Hangers and Supports	25
102.3 Violations and Penalties	3	Table 3-1	Hanger Rod Sizes	25
103.0 Permits and Inspections	3	315.0	Trenching, Excavation and Backfill	25
103.1 Permits	3	315.3	Open Trenches	25
103.2 Application for Permit	3	316.0	Joints and Connections	25
103.3 Permit Issuance	4	316.1	Types of Joints	25
103.4 Fees	5	316.2	Special Joints	26
103.5 Inspections	6	316.3	Flanged Fixture Connections	27
103.6 Connection Approval	7	316.4	Prohibited Joints and Connections	27
103.7 Unconstitutional	7	317.0	Increases and Reducers	27
103.8 Validity	8	318.0	Food-Handling Establishments	27
Table 1-1 Plumbing Permit Fees	9	319.0	Test Gauges	27
Chapter 2 Definitions	11	320.0	Medical Gas and Vacuum Systems	27
201.0 General	11	Table 3-2	Hangers and Supports	28
202.0 Definition of Terms	11	Chapter 4 Plumbing Fixtures and Fixture Fittings		29
Chapter 3 General Regulations	21	401.0	Materials - General Requirements	29
301.0 Materials - Standards and Alternates	21	401.1	Quality of Fixtures	29
301.1 Minimum Standards	21	401.2	Lead	29
301.2 Alternate Materials and Methods of Construction Equivalency	21	402.0	Water-Conserving Fixtures and Fittings	29
301.3 Flood Hazard Resistance	21	402.2	Water Closets	29
301.4 Alternative Engineered Design	22	402.3	Urinals	29
302.0 Iron Pipe Size (IPS) Pipe	22	402.4	Metered Faucets	29
303.0 Disposal of Liquid Waste	22	402.5	Emergency Safety Showers	29
304.0 Connections to Plumbing System Required	22	402.6	Installation	29
305.0 Sewers Required	22	403.0	Overflows	29
306.0 Damage to Drainage System or Public Sewer	23	404.0	Strainers and Connections	29
307.0 Industrial Wastes	23	404.1	Strainers	29
308.0 Location	23	404.2	Connections	29
309.0 Improper Location	23	405.0	Prohibited Fixtures	30
310.0 Workmanship	23	405.2	Prohibited Urinals	30
		406.0	Special Fixtures and Specialties	30
		406.1	Water and Waste Connections	30

UNIFORM PLUMBING CODE

406.3	Special Use Fixtures	30	415.0	Installation of Fixture Fittings	34
406.4	Zinc Alloy Components	30	416.0	Bidets	35
407.0	Installation	30	416.1	Materials	35
407.1	Cleaning	30	416.2	Backflow Protection	35
407.2	Joints	30	416.3	Limitation of Water Temperature in Bidets	35
407.3	Securing Fixtures	30	417.0	Future Fixtures	35
407.4	Wall-Hung Fixtures	30	418.0	Shower and Tub-Shower Combination Control Valves	35
407.5	Setting	30	Table 4-1	Minimum Plumbing Facilities	36
407.6	Installations for Persons with Disabilities	30	Chapter 5	Water Heaters	41
407.7	Supply Fittings	30	Part I	41
408.0	Water Closets	30	501.0	General	41
408.2	Water Closet Seats	30	502.0	Definitions	41
408.3	Securing Floor-Mounted, Back-Outlet Water Closet Bowls	31	502.1	Appliance Categorized Vent Diameter/Area	41
408.4	Closet Rings (Closet Flanges)	31	502.2	Chimney	41
409.0	Urinals	31	502.3	Chimney, Factory-Built	41
410.0	Flushing Devices for Water Closets and Urinals	31	502.4	Chimney, Masonry	41
410.1	Flushing Devices Required	31	502.5	Chimney, Metal	41
410.2	Automatic Flushing Tanks	31	502.6	Combustible Material	41
410.3	Flushometer Valves	31	502.7	Direct-Vent Appliances	41
410.4	Water Supply for Flush Tanks	31	502.8	Flue Collar	41
410.5	Overflows in Flush Tanks	31	502.9	Gas Vent, Type B	41
411.0	Floor Drains and Shower Stalls	32	502.10	Gas Vent, Type L	41
411.2	Location of Floor Drains	32	502.11	Indirect-Fired Water Heater	41
411.3	Food Storage Areas	32	502.12	Vent	41
411.4	Floor Slope	32	Table 5-1	First Hour Rating	41
411.10	Location of Valves and Heads	33	502.13	Vent Connector	42
411.11	Water Supply Riser	33	502.14	Venting System	42
412.0	Minimum Number of Required Fixtures	34	502.15	Water Heater	42
412.1	Fixture Count	34	503.0	Permits	42
412.2	Access to Fixtures	34	504.0	Inspection	42
412.3	Separate Facilities	34	504.1	Inspection of Chimneys or Vents	42
412.4	Fixture Requirements for Special Occupancies	34	504.2	Final Water Heater Inspection	42
412.5	Facilities in Mercantile and Business Occupancies Serving Customers	34	505.0	Water Heater Requirements	42
412.6	Toilet Facilities for Workers	34	505.1	Location	42
413.0	Fixtures and Fixture Fittings for Persons with Disabilities	34	505.3	Clearance	42
413.1	Limitation of Hot Water Temperature for Public Lavatories	34	505.4	Pressure-Limiting Devices	42
414.0	Bathtubs and Whirlpool Bathtubs	34	505.5	Temperature-Limiting Devices	42
414.5	Limitation of Hot Water in Bathtubs and Whirlpool Bathtubs	34	505.6	Temperature, Pressure, and Vacuum Relief Devices	42
			506.0	Oil-Burning and Other Water Heaters	43
			506.4	Indirect-Fired Water Heaters	43

TABLE OF CONTENTS

507.0	Air for Combustion and Ventilation	43	508.27	Protection of Outdoor Appliances . . .	49
507.1	General	43	509.0	Appliances on Roofs	49
507.2	Indoor Combustion Air	44	509.1	General	49
507.3	Indoor Opening Size and Location	44	509.2	Installation of Appliances on Roofs	49
507.4	Outdoor Combustion Air	44	509.3	Access to Appliances on Roofs	49
507.5	Combination Indoor and Outdoor Combustion Air	45	509.4	Appliances in Attics	50
507.6	Engineered Installations	45	510.0	Venting of Appliances	50
507.7	Mechanical Combustion Air Supply	45	510.1	General	50
507.8	Louvers, Grilles and Screens	45	510.2	Specification for Venting	50
507.9	Combustion Air Ducts	45	510.3	Design and Construction	51
508.0	Other Water Heater Installation Requirements	46	510.4	Type of Venting System to Be Used .	52
508.5	Relief Valve Discharge	46	510.5	Masonry, Metal, and Factory-Built Chimneys	52
508.6	Added or Converted Appliances . . .	46	Table 5-2	Type of Venting System to Be Used	55
508.7	Types of Gases	46	510.6	Gas Vents	55
508.8	Safety Shutoff Devices for Unlisted LP-Gas Appliance Used Indoors	46	Table 5-3	Clearance for Connectors	56
508.9	Use of Air or Oxygen Under Pressure	47	Table 5-4	Reduction of Clearances with Specified Forms of Protection	58
508.10	Protection of Gas Appliances from Fumes or Gases Other than Products of Combustion	47	Table 5-5	Minimum Thickness for Galvanized Steel Vent Connector for Low-Heat Appliances	59
508.11	Process Air	47	510.7	Single-Wall Metal Pipe	59
508.12	Building Structural Members	47	510.8	Through-the-Wall Vent Termination	61
508.13	Flammable Vapors	47	510.9	Condensation Drain	61
508.14	Installation in Residential Garages	47	510.10	Vent Connectors for Category I Gas Utilization Appliances	61
508.15	Installation in Commercial Garages	47	Table 5-6	Minimum Thickness for Steel Vent Connectors for Medium-Heat Appliances and Commercial and Industrial Incinerators	62
508.16	Installation in Aircraft Hangars . . .	48	510.11	Vent Connectors for Category II, Category III, and Category IV Gas Utilization Appliances	64
508.17	Gas Appliance Physical Protection .	48	510.12	Draft Hoods and Draft Controls . . .	64
508.18	Venting of Flue Gases	48	510.13	Manually Operated Dampers	65
508.19	Extra Device or Attachment	48	510.14	Automatically Operated Vent Dampers	65
508.20	Adequate Capacity of Piping	48	510.15	Obstructions	65
508.21	Avoiding Strain on Gas Piping	48	511.0	Sizing of Category I Venting Systems	65
508.22	Gas Appliance Pressure Regulators	48	511.2	Additional Requirements to Multiple Appliance Vent Table 5-14 through Table 5-22	67
508.23	Venting of Gas Appliance Pressure Regulators	48	Table 5-7	Vent Connector Maximum Length . . .	67
508.24	Bleed Lines for Diaphragm-Type Valves	48	512.0	Direct-Vent Appliances	70
508.25	Combination of Appliances	49			
508.26	Installation Instructions	49			

UNIFORM PLUMBING CODE

Table 5-8	Type B Double-Wall Gas Vent	73	603.1	Approval of Devices or Assemblies	110
Table 5-9	Type B Double-Wall Gas Vent	76	603.2	Backflow Prevention Devices, Assemblies, and Methods	111
Table 5-10	Masonry Chimney	78	603.3	General Requirements	111
Table 5-11	Masonry Chimney	80	603.4	Specific Requirements	112
Table 5-12	Single-Wall Metal Pipe or Type B Asbestos Cement Vent	82	604.0	Materials	114
Table 5-13	Exterior Masonry Chimney	83	Table 6-4	Materials for Building Supply and Water Distribution Piping and Fittings	115
Table 5-14	Type B Double-Wall Vent	84	604.11	PEX	115
Table 5-15	Type B Double-Wall Vent	88	604.12	Flexible Corrugated Connectors	115
Table 5-16	Masonry Chimney	90	604.13	PEX-AL-PEX and PE-AL-PE	115
Table 5-17	Masonry Chimney	92	604.14	Water Heater Connectors	116
Table 5-18	Single-Wall Metal Pipe or Type B Asbestos Cement Vent	94	605.0	Valves	116
Table 5-19	Exterior Masonry Chimney	94	606.0	Joints and Connections	116
Table 5-20	Exterior Masonry Chimney	95	606.1	Types of Joints	116
Table 5-21	Exterior Masonry Chimney	96	606.2	Use of Joints	116
Table 5-22	Exterior Masonry Chimney	97	607.0	Gravity Supply Tanks	117
Part II	Sizing of Venting Systems Serving Appliances Equipped with Draft Hoods, Category I Appliances, and Appliances Listed for Use with Type B Vents.	98	608.0	Water Pressure, Pressure Regulators, Pressure Relief Valves, and Vacuum Relief Valves	117
G.1	Examples Using Single Appliance Venting Tables	98	608.1	Inadequate Water Pressure	117
G.2	Examples Using Common Venting Tables	102	608.2	Excessive Water Pressure	117
Table G.2.3	Masonry Chimney Liner Dimensions with Circular Equivalents	103	608.7	Vacuum Relief Valves	118
J.1	Example of Combination Indoor and Outdoor Combustion Air Opening	105	609.0	Installation, Testing, Unions, and Location	118
Table A.9.3.2.1	Standard Method Volume, All Appliances	106	609.1	Installation	118
Chapter 6	Water Supply and Distribution	107	609.4	Testing	118
601.0	Hot and Cold Water Required	107	609.5	Unions	118
601.2	Identification of a Potable and Nonpotable Water System	107	609.6	Location	118
Table 6-1	Minimum Length of Color Field and Size of Letters	107	609.8	Low-Pressure Cutoff Required on Booster Pumps for Water Distribution Systems	119
602.0	Unlawful Connections	107	609.9	Disinfection of Potable Water System	119
Table 6-2	Backflow Prevention Devices, Assemblies and Methods	108	609.10	Water Hammer	119
Table 6-3	Minimum Airgaps for Water Distribution	110	610.0	Size of Potable Water Piping	119
603.0	Cross-Connection Control	110	610.8	Size of Meter and Building Supply Pipe Using Table 6-6	120
			610.9	Size of Branches	120
			610.10	Sizing for Flushometer Valves	120
			610.11	Sizing Systems for Flushometer Tanks	121
			610.12	Sizing for Velocity	121
			610.13	Exceptions	121

TABLE OF CONTENTS

611.0	Drinking Water Treatment Units	121	710.0	Drainage of Fixtures Located Below the Next Upstream Manhole or Below the Main Sewer Level	131
611.1	Compliance with Standard	121	Table 7-6	Cleanouts	131
611.2	Airgap Discharge	121	710.12	Grinder Pump Ejector	132
611.3	Connection Tubing	121	710.13	Macerating Toilet Systems	132
611.4	Sizing of Residential Softeners	121	711.0	Suds Relief	133
Table 6-5	Water Supply Fixture Units (WSFU) and Minimum Fixture Branch Pipe Sizes	122	712.0	Testing	133
Table 6-6	Fixture Unit Table for Determining Water Pipe and Meter Sizes	123	712.1	Media	133
Table 6-7	Flushometer Fixture Units for Water Sizing Using Table 6-5	124	712.2	Water Test	133
Table 6-8	Sizing of Residential Water Softeners	124	712.3	Air Test	133
Chapter 7	Sanitary Drainage	125	Part II	Building Sewers	133
Part I	Drainage Systems	125	713.0	Sewer Required	133
701.0	Materials	125	714.0	Damage to Public Sewer or Private Sewage Disposal System	134
701.3	Lead	125	715.0	Building Sewer Materials	134
701.4	Ferrules and Bushings	125	716.0	Markings	134
Table 7-2(a)	Caulking Ferrules	125	717.0	Size of Building Sewers	134
Table 7-2(b)	Soldering Bushings	125	718.0	Grade, Support, and Protection of Building Sewers	134
Table 7-1	Materials for Drain, Waste Vent Pipe, and Fittings	126	719.0	Cleanouts	135
702.0	Fixture Unit Equivalents	127	720.0	Sewer and Water Pipes	135
Table 7-4	Discharge Capacity In Gallons per Minute (Liters per Second) For Intermittent Flow Only	127	721.0	Location	135
703.0	Size of Drainage Piping	127	722.0	Abandoned Sewers and Sewage Disposal Facilities	136
704.0	Fixture Connections (Drainage)	127	Table 7-7	Minimum Horizontal Distance Required From Building Sewer	136
705.0	Joints and Connections	127	Table 7-8	Maximum/Minimum Fixture Unit Loading on Building Sewer Piping	136
705.1	Types of Joints	127	723.0	Building Sewer Test	137
Table 7-3	Drainage Fixture Unit Values (DFU)	128	Chapter 8	Indirect Wastes	139
Table 7-5	Maximum Unit Loading and Maximum Length of Drainage and Vent Piping	129	801.0	Indirect Wastes	139
705.2	Use of Joints	129	801.1	Airgap or Airbreak Required	139
705.3	Special Joints	130	801.2	Food and Beverage Handling Establishments	139
706.0	Changes in Direction of Drainage Flow	130	801.3	Bar and Fountain Sink Traps	139
707.0	Cleanouts	130	801.4	Connections from Water Distribution System	139
708.0	Grade of Horizontal Drainage Piping	131	801.5	Sterilizers	139
709.0	Gravity Drainage Required	131	801.6	Drip or Drainage Outlets	139
			802.0	Approvals	139
			803.0	Indirect Waste Piping	139
			804.0	Indirect Waste Receptors	140
			805.0	Pressure Drainage Connections	140

UNIFORM PLUMBING CODE

806.0	Sterile Equipment	140	1002.0	Traps Protected by Vent Pipes	147
807.0	Appliances	140	Table 10-1	Horizontal Lengths of Trap Arms	147
808.0	Cooling Water	140	1003.0	Traps - Described	147
809.0	Drinking Fountains	141	1004.0	Traps - Prohibited	148
810.0	Steam and Hot Water Drainage		1005.0	Trap Seals	148
	Condensers and Sumps	141	1006.0	Floor Drain Traps	148
Table 8-1	Pipe Connections in Blowoff		1007.0	Trap Seal Protection	148
	Condensers and Sumps	141	1008.0	Building Traps	148
810.4	Strainers	141	1009.0	Industrial Interceptors (Clarifiers)	
811.0	Chemical Wastes	141		and Separators	148
812.0	Clear Water Wastes	142	1009.1	When Required	148
813.0	Swimming Pools	142	1009.2	Approval	148
814.0	Condensate Wastes and		1009.3	Design	148
	Control	142	1009.4	Relief Vent	148
814.1	Condensate Disposal	142	1009.5	Location	148
814.2	Size	142	1009.6	Maintenance of Interceptors	148
Table 8-2	Minimum Condensate Pipe Size	142	1009.7	Discharge	149
814.3	Point of Discharge	142	1010.0	Slaughterhouses, Packing	
				Establishments, etc.	149
Chapter 9	Vents	143	1011.0	Minimum Requirements	
901.0	General	143		for Auto Wash Racks	149
901.1	Vents Required	143	1012.0	Commercial and Industrial	
901.2	Trap Seal Protection	143		Laundries	149
902.0	Vents Not Required	143	1013.0	Bottling Establishments	149
903.0	Materials	143	1014.0	Grease Interceptors	149
903.2	Use of Copper Tubing	143	1014.2	Hydromechanical Grease	
904.0	Size of Vents	143		Interceptors	149
905.0	Vent Pipe Grades and		1014.3	Gravity Grease Interceptors	150
	Connections	144	Table 10-2	Hydro-Mechanical Interceptor	
906.0	Vent Termination	144		Sizing Using Gravity Flow Rates	150
906.6	Lead	144	Table 10-3	Gravity Grease Interceptor Sizing	151
906.7	Frost or Snow Closure	144	1015.0	FOG (Fats, Oils, and Greases)	
907.0	Vent Stacks and Relief Vents	144		Disposal System	151
908.0	Wet Venting	145	1015.1	Purpose	151
908.1	Vertical Wet Venting	145	1015.2	Scope	152
908.2	Horizontal Wet Venting for		1015.3	Components, Materials,	
	Bathroom Groups	145		and Equipment	152
909.0	Special Venting for Island		1015.4	Sizing Application	
	Fixtures	145		and Installation	152
910.0	Combination Waste and		1015.5	Performance	152
	Vent Systems	145	1016.0	Sand Interceptors	152
911.0	Engineered Vent System	146	1016.1	Where Required	152
911.1	General	146	1016.2	Construction and Size	152
911.2	Minimum Requirements	146	1016.3	Separate Use	152
Chapter 10	Traps and Interceptors	147	1017.0	Oil and Flammable	
1001.0	Traps Required	147		Liquid Interceptors	152

TABLE OF CONTENTS

1017.1	Interceptors Required	152	1106.1	Vertical Conductors and Leaders . .	158
1017.2	Design of Interceptors	153	1106.2	Size of Horizontal Storm Drains and Sewers	158
Chapter 11	Storm Drainage	155	1106.3	Size of Roof Gutters	158
1101.0	General	155	1106.4	Side Walls Draining onto a Roof . .	158
1101.1	Where Required	155	1107.0	Values for Continuous Flow	158
1101.2	Storm Water Drainage to Sanitary Sewer Prohibited	155	1108.0	Controlled-Flow Roof Drainage . .	158
1101.3	Material Uses	155	1108.1	Application	158
1101.4	Expansion Joints Required	155	Table 11-4	Controlled-Flow Maximum Roof Water Depth	159
1101.5	Subsoil Drains	155	Table 11-5	Distance of Scupper Bottoms Above Roof	159
1101.6	Building Subdrains	156	1108.2	Setback Roofs	159
1101.7	Areaway Drains	156	1109.0	Testing	159
1101.8	Window Areaway Drains	156	1109.1	Testing Required	159
1101.9	Filling Stations and Motor Vehicle Washing Establishments . .	156	1109.2	Methods of Testing Storm Drainage Systems	159
1101.10	Paved Areas	156	Table 11-1	Sizing Roof Drains, Leaders, and Vertical Rainwater Piping . . .	161
1101.11	Roof Drainage	156	Table 11-2	Sizing of Horizontal Rainwater Piping	162
1101.12	Cleanouts	157	Table 11-3	Size of Gutters	164
1102.0	Materials	157	Chapter 12	Fuel Piping	167
1102.1	Conductors	157	1201.0	Scope of Gas Piping	167
1102.2	Leaders	157	1202.0	General	167
1102.3	Underground Building Storm Drains	157	1203.0	Definitions	167
1102.4	Building Storm Sewers	157	1203.1	Appliance Fuel Connector	167
1102.5	Subsoil Drains	157	1203.2	Bonding Jumper	167
1103.0	Traps on Storm Drains and Leaders	157	1203.3	Fuel Gas	167
1103.1	Where Required	157	1203.4	Gas Piping	168
1103.2	Where Not Required	157	1203.5	Gas-Piping System	168
1103.3	Trap Size	157	1203.6	Grounding Electrode	168
1103.4	Method of Installation of Combined Sewer	157	1203.7	Liquefied Petroleum Gas (LPG) Facilities	168
1104.0	Leaders, Conductors, and Connections	157	1203.8	Provision for Location of Point of Delivery	168
1104.1	Improper Use	157	1203.9	Quick-Disconnect Device	168
1104.2	Protection of Leaders	157	1203.10	Service Piping	168
1104.3	Combining Storm with Sanitary Drainage	157	1203.11	Transition Gas Riser	168
1105.0	Roof Drains	157	1204.0	Inspection	168
1105.1	Material	157	1205.0	Certificate of Inspection	168
1105.2	Dome or Strainer for General Use	158	1206.0	Authority to Render Gas Service	168
1105.3	Strainers for Flat Decks	158	1207.0	Authority to Disconnect	169
1105.4	Roof Drain Flashings	158	1208.0	Temporary Use of Gas	169
1106.0	Size of Leaders, Conductors, and Storm Drains	158			

UNIFORM PLUMBING CODE

1209.0	Gas-Piping System Design, Materials, and Components	169	1212.0	Appliance Connections to Building Piping	181
1209.1	Piping Plan	169	1212.1	Connecting Gas Appliances	181
1209.2	Provision for Location of Point of Delivery	169	1212.2	Suspended Low-Intensity Infrared Tube Heaters	182
1209.3	Interconnections Between Gas-Piping Systems	169	1212.3	Use of Nonmetallic Gas Hose Connectors	182
1209.4	Sizing of Gas-Piping Systems	169	1212.4	Connection of Portable and Mobile Industrial Gas Appliance	182
1209.5	Acceptable Piping Materials and Joining Methods	170	1212.5	Appliance Shutoff Valves and Connections	182
Table 12-1	Approximate Gas Input for Typical Appliances	170	1212.6	Quick-Disconnect Devices	182
Table 12-2	Specifications for Threading Metallic Pipe	172	1212.7	Sediment Trap	182
1209.6	Gas Meters	173	1212.8	Installation of Piping	183
1209.7	Gas Pressure Regulators	174	1213.0	Liquefied Petroleum Gas Facilities and Piping	183
1209.8	Back-Pressure Protection	175	1214.0	Pressure Testing and Inspection	183
1209.9	Low-Pressure Protection	175	1214.1	General	183
1209.10	Shutoff Valves	175	1214.2	Test Preparation	183
1209.11	Expansion and Flexibility	175	1214.3	Test Pressure	184
1210.0	Excess Flow Valve	176	1214.4	Detection of Leaks and Defects	184
1211.0	Gas Piping Installation	176	1214.5	Piping Systems Leak Check	184
1211.1	Piping Underground	176	1214.6	Purging Requirements	184
1211.2	Installation of Piping	177	Table 12-5	Size and Length of Piping	184
Table 12-3	Support of Piping	178	1215.0	Interconnections Between Gas Piping Systems	185
1211.3	Concealed Piping in Buildings	178	1215.1	Interconnections Supplying Separate Users	185
1211.4	Piping in Vertical Chases	178	1215.2	Interconnections for Standby Fuels	186
1211.5	Maximum Design Operating Pressure	178	1216.0	Required Gas Supply	186
1211.6	Appliance Over Pressure Protection	179	1217.0	Required Gas Piping Size	186
1211.7	Gas Pipe Turns	179	1217.1	Pipe Sizing Methods	186
1211.8	Drips and Sediment Traps	180	1217.2	Tables for Sizing Gas-Piping Systems	186
1211.9	Outlets	180	1217.3	Sizing Equations	186
1211.10	Branch Pipe Connection	180	Table 12-4	Cr and Y for Natural Gas and Undiluted Propane at Standard Conditions	187
1211.11	Manual Gas Shutoff Valves	180	Table 12-8	Schedule 40 Metallic Pipe	189
1211.12	Prohibited Devices	181	Table 12-9	Schedule 40 Metallic Pipe	190
1211.13	Systems Containing Gas-Air Mixtures Outside the Flammable Range	181	Table 12-10	Schedule 40 Metallic Pipe	191
1211.14	Systems Containing Flammable Gas-Air Mixtures	181	Table 12-11	Schedule 40 Metallic Pipe	192
1211.15	Electrical Bonding and Grounding	181	Table 12-12	Semi-Rigid Copper Tubing	193
1211.16	Electrical Circuits	181	Table 12-13	Semi-Rigid Copper Tubing	194
1211.17	Electrical Connections	181			

TABLE OF CONTENTS

Table 12-14 Semi-Rigid Copper Tubing	195	1305.0	Locations for Ice Storage	217
Table 12-15 Semi-Rigid Copper Tubing	196	1306.0	Sterilizers	217
Table 12-16 Semi-Rigid Copper Tubing	197	1306.1	General	217
Table 12-17 Semi-Rigid Copper Tubing	198	1306.2	Indirect Waste Connections	217
Table 12-18 Semi-Rigid Copper Tubing	199	1307.0	Vapor Vents and Stacks for Sterilizers	218
Table 12-19 Corrugated Stainless Steel Tubing (CSST)	200	1307.1	General	218
Table 12-20 Corrugated Stainless Steel Tubing (CSST)	200	1308.0	Aspirators	218
Table 12-21 Corrugated Stainless Steel Tubing (CSST)	201	Part II	Medical Gas and Vacuum Systems	218
Table 12-22 Corrugated Stainless Steel Tubing (CSST)	201	1309.0	Application	218
Table 12-23 Corrugated Stainless Steel Tubing (CSST)	202	1310.0	Definitions	218
Table 12-24 Polyethylene Plastic Pipe	202	1310.1	Building Supply	218
Table 12-25 Polyethylene Plastic Pipe	203	1310.2	Critical Care Area	218
Table 12-26 Polyethylene Plastic Pipe	204	1310.3	General Care Areas	218
Table 12-27 Polyethylene Plastic Tubing	205	1310.4	Manifold	218
Table 12-28 Polyethylene Plastic Tubing	205	1310.5	Medical Air	218
Table 12-29 Schedule 40 Metallic Pipe	206	1310.6	Medical Gas	219
Table 12-30 Schedule 40 Metallic Pipe	207	1310.7	Medical Gas System	219
Table 12-31 Schedule 40 Metallic Pipe	208	1310.8	Medical Vacuum System	219
Table 12-32 Schedule 40 Metallic Pipe	209	1310.9	Nitrogen, NF (Oil-Free, Dry) (Nitrogen for Brazing and Testing)	219
Table 12-33 Semi-Rigid Copper Tubing	210	1310.10	Patient Care Area	219
Table 12-34 Semi-Rigid Copper Tubing	211	1310.11	Purge, Flow	219
Table 12-35 Semi-Rigid Copper Tubing	212	1310.12	Purge, System	219
Table 12-36 Corrugated Stainless Steel Tubing (CSST)	213	1310.13	SCFM	219
Table 12-37 Corrugated Stainless Steel Tubing (CSST)	213	1310.14	Special Hazard Area	219
Table 12-38 Corrugated Stainless Steel Tubing (CSST)	214	1310.15	Station Inlet	219
Table 12-39 Polyethylene Plastic Pipe	214	1310.16	Station Outlet	219
Table 12-40 Polyethylene Plastic Pipe	215	1310.17	Use Point	219
Table 12-41 Polyethylene Plastic Tubing	216	1310.18	User Outlet	219
Chapter 13 Health Care Facilities and Medical Gas and Vacuum Systems	217	1310.19	Vacuum System – Level 1	219
Part I Special Requirements for Health Care Facilities	217	1310.20	Valve, Isolation	219
1301.0 Application	217	1310.21	Valve, Riser	219
1302.0 Medical Gas and Vacuum Piping Systems-Installation Requirements	217	1310.22	Valve, Service	219
1303.0 Protrusions from Walls	217	1310.23	Valve, Source	219
1304.0 Psychiatric Patient Rooms	217	1310.24	Valve, Zone	219
		1310.25	Waste Anesthetic Gas Disposal	219
		1311.0	General Requirements	219
		1311.1	Oxygen Compatibility	219
		1312.0	Plan Review	220
		1313.0	System Performance	221
		1313.1	Required Operating Pressures	221
		1313.2	Minimum Flow Rates	221
		1313.3	Minimum Station Outlets/Inlets	221

UNIFORM PLUMBING CODE

1314.0	Required Pipe Sizing	221	Table 13-1	Standard Designation Colors and Operating Pressures for Gas and Vacuum Systems	235
1315.0	Workmanship	221	Table 13-2	Minimum Flow Rates	236
1316.0	Materials	221	Table 13-3	Minimum Outlets/Inlets per Station	236
1317.0	Cleaning for Medical Gas Piping Systems	223	Table 13-4	System Sizing - Flow Requirements for Station Inlet/Outlet	237
1318.0	Installation of Piping	223	Table 13-5	Outlet Rating for Vacuum Piping Systems	237
1319.0	Joints	224	Table 13-6	Size of Gas/Vacuum Piping	238
1320.0	Valves - Requirements, Locations, and Labeling	226	Table 13-7	Maximum Pipe Support Spacing	238
1320.1	General Requirements	226	Chapter 14 Referenced Standards		239
1320.4	Source Valve	227	Table 14-1	Standards for Materials, Equipment, Joints, and Connections	239
1320.5	Main Valve	227		Abbreviations in Table 14-1	265
1320.6	Riser Valve	227	Chapter 15 Firestop Protection		267
1320.7	Zone Valve	227	1501.0	General Requirements	267
1320.8	Service Valves	227	1501.1	Applicability	267
1321.0	Pressure-Regulating Equipment	228	1502.0	Plans and Specifications	267
1321.3	Pressure Gauges	228	1503.0	Installation	267
1322.0	Station Outlets/Inlets	228	1504.0	Definitions	267
1323.0	Labeling and Identification	228	1504.1	Penetration Firestop System	267
1324.0	Alarms	229	1504.2	F Rating	267
1325.0	Medical Air System	229	1504.3	T Rating	267
1325.6	Medical Air Receivers	230	1505.0	Combustion Piping Installations	267
1326.0	Medical Vacuum Pump System	230	1505.5	Insulation and Coverings	267
1327.0	Testing and Inspection	231	1505.6	Sleeves	267
1327.3	Advance Notice	232	1506.0	Non-Combustible Piping Installation	267
1327.4	Responsibility	232	1506.6	Sleeves	268
1327.5	Testing	232	1506.7	Insulation and Coverings	268
1327.6	Retesting	232	1507.0	Required Inspection	268
1327.7	Initial Pressure Test – Piped Gas Systems	232	1507.1	General	268
1327.8	Cross-Connection Test – Piped Gas Systems	232	Chapter 16 Nonpotable Water Reuse Systems 269		
1327.9	Final Testing Standing Pressure Test – Piped Gas Systems	232	Part I		269
1327.10	Initial Pressure Test – Piped Vacuum Systems	233	1601.0	Gray Water Systems – General	269
1327.11	Standing Pressure Test – Piped Vacuum Systems	233	1602.0	Definition	269
1327.12	Corrections	233	1603.0	Permit	269
1327.13	Approval	234	1604.0	Drawings and Specifications	269
1327.14	Covering or Use	234			
1327.15	Uncovering	234			
1328.0	System Certification	234			

TABLE OF CONTENTS

1605.0	Inspection and Testing	269	Appendix K Private Sewage Disposal Systems	433
1606.0	Procedure for Estimating Gray Water Discharge	270	Appendix L Alternate Plumbing Systems	445
1607.0	Required Area of Subsurface Irrigation/Disposal Fields	270	Useful Tables	453
1608.0	Determination of Maximum Absorption Capacity	270	Index	461
1609.0	Holding Tank Construction	270		
1610.0	Gray Water Systems	271		
1610.1	Pipe Materials	271		
1610.2	Color and Information	271		
1610.3	Valves	271		
1610.4	Trap	271		
1611.0	Irrigation/Disposal Field Construction	271		
1612.0	Special Provisions	272		
Table 16-1	Location of Gray Water System	273		
Table 16-2	Design Criteria of Six Typical Soils	274		
Part II	280		
1613.0	Reclaimed Water Systems – General	280		
1614.0	Definitions	280		
1615.0	Permit	280		
1616.0	Drawings and Specifications	280		
1617.0	Pipe Material/Pipe Identification	280		
1617.1	Pipe Materials	280		
1617.2	Color and Information	280		
1618.0	Installation	281		
1619.0	Signs	281		
1620.0	Inspection and Testing	281		
1621.0	Sizing	282		
Appendices Table of Contents	283		
Appendix A	Recommended Rules for Sizing the Water Supply System	285		
Appendix B	Explanatory Notes on Combination Waste and Vent Systems	301		
Appendix D	Sizing Stormwater Drainage Systems	303		
Appendix E	Manufactured/Mobile Home Parks and Recreational Vehicle Parks	311		
Appendix F	Firefighter Breathing Air Replenishment Systems	323		
Appendix I	Installation Standards Table of Content	327		

CHAPTER 1

ADMINISTRATION

101.0 Title, Scope, and General.

101.1 Title.

This document shall be known as the "Uniform Plumbing Code," may be cited as such, and will be referred to herein as "this code."

101.2 Purpose.

This code is an ordinance providing minimum requirements and standards for the protection of the public health, safety, and welfare.

101.3 Plans Required.

The Authority Having Jurisdiction shall be permitted to require the submission of plans, specifications, drawings, and such other information as required by the Authority Having Jurisdiction, prior to the commencement of, and at any time during the progress of, any work regulated by this code.

The issuance of a permit upon plans and specifications shall not prevent the Authority Having Jurisdiction from thereafter requiring the correction of errors in said plans and specifications or from preventing construction operations being carried on thereunder when in violation of this code or of any other pertinent ordinance or from revoking any certificate of approval when issued in error.

101.4 Scope.

101.4.1 The provisions of this code shall apply to the erection, installation, alteration, repair, relocation, replacement, addition to, use, or maintenance of plumbing systems within this jurisdiction.

101.4.1.1 Repairs and Alterations.

101.4.1.1.1 In existing buildings or premises in which plumbing installations are to be altered, repaired, or renovated, deviations from the provisions of this code are permitted, provided such deviations are found to be necessary and are first approved by the Authority Having Jurisdiction.

101.4.1.1.2 Existing building sewers and building drains shall be permitted to be used in connection with new buildings or new plumbing and drainage work only when they are found on examination and test to conform in all respects to the requirements governing new work, and the proper Authority

Having Jurisdiction shall notify the owner to make any changes necessary to conform to this code. No building, or part thereof, shall be erected or placed over any part of a drainage system that is constructed of materials other than those approved elsewhere in this code for use under or within a building.

101.4.1.1.3 Openings into a drainage or vent system, excepting those openings to which plumbing fixtures are properly connected or which constitute vent terminals, shall be permanently plugged or capped in an approved manner, using the appropriate materials required by this code.

101.4.1.2 Maintenance. The plumbing and drainage system of any premises under the Authority Having Jurisdiction shall be maintained in a sanitary and safe operating condition by the owner or the owner's agent.

101.4.1.3 Existing Construction. No provision of this code shall be deemed to require a change in any portion of a plumbing or drainage system or any other work regulated by this code in or on an existing building or lot when such work was installed and is maintained in accordance with law in effect prior to the effective date of this code, except when any such plumbing or drainage system or other work regulated by this code is determined by the Authority Having Jurisdiction to be in fact dangerous, unsafe, insanitary, or a nuisance and a menace to life, health, or property.

101.4.1.4 Conflicts Between Codes. When the requirements within the jurisdiction of this plumbing code conflict with the requirements of the mechanical code, this code shall prevail.

101.4.2 Additions, alterations, repairs, and replacement of plumbing systems shall comply with the provisions for new systems except as otherwise provided in Section 101.5.

101.4.3 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 as such.