

ORDINANCE #66615
Board Bill No. 225
Committee Substitute

An ordinance adopting the Uniform Plumbing Code, 2003 Edition, as the Plumbing Code of the City of Saint Louis; repealing Ordinance 60826, which adopted the National Standard Plumbing Code, 1987 Edition; repealing Ordinance 61713, Ordinance 62610, Ordinance 62682, Ordinance 65031 and Ordinance 65932, all of which modified Ordinance 60826; and containing a penalty clause, a savings clause and an emergency clause.

BE IT ORDAINED BY THE CITY OF SAINT LOUIS AS FOLLOWS:

SECTION ONE.

An ordinance repealing Ordinance 60826 approved July 18, 1989, pertaining to the Plumbing Code of the City of Saint Louis which adopted the National Standard Plumbing Code/1987; repealing Ordinance 61713 approved December 20, 1989, which dealt with lawn sprinklers; repealing Ordinance 62610, approved April 7, 1992, which dealt with annual inspections; repealing Ordinance 62682 approved July 27, 1992, which dealt with licensing fees; repealing Ordinance 65031 approved August 9, 2000, which dealt with the Plumbing Board; repealing Ordinance 65932 approved June 26, 2003, which amended Plumbing fees; and enacting in lieu thereof a new Plumbing Code and adopting the Uniform Plumbing Code/2003.

SECTION TWO.

The Uniform Plumbing Code/2003, Twenty-Third Edition, as published by the International Association of Plumbing and Mechanical Officials, three copies of which are filed on record in the Office of the Register of the City of Saint Louis, being marked and designated as the Uniform Plumbing Code, including Appendix Chapters A, B, D, E, H, I and M be and is hereby adopted as "The Plumbing Code of the City of Saint Louis, in the State of Missouri; for the control of buildings and structures as herein provided; and that each and all of the regulations, provisions, penalties, conditions and terms of said Building Code are hereby referred to, adopted and made a part hereto, as if fully set out in this ordinance with the additions, insertions, deletions and changes prescribed in Section Three of this ordinance.

Section Three.

That the Uniform Plumbing Code/2003 is amended and changed in the following respects:

Delete Chapter 1 in its entirety with the following substitution:

Chapter 1 Administration

101.0 GENERAL

101.1 Title.

These regulations shall be known as the Plumbing Code of the City of St. Louis, hereinafter referred to as "this code."

101.2 Scope.

This code shall regulate the design, erection, installation, alteration, repairs, relocation, replacement, addition to, removal, use, maintenance and inspection of plumbing equipment and systems within the City of St. Louis.

101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted. Appendices A, B, D, E, H, and I are hereby adopted for use by the City of Saint Louis. Appendices G, J and L are accepted as reference only and may be used as an engineered system if approved by the Authority Having Jurisdiction. Appendix M is added.

101.3 Code intent.

The purpose of this code is to provide minimum standards to safeguard life and limb, health, property and public welfare by regulating and controlling the design, erection, installation, alteration, repairs, relocation, replacement, addition to, use, maintenance and inspection of plumbing equipment and systems. This code shall be construed to secure its expressed intent, which is to insure public health, safety and welfare insofar as they are affected by the design, erection, installation, alteration, repairs, relocation, replacement, addition to, use, maintenance and inspection of plumbing equipment and systems.

102.0 APPLICABILITY

102.1 General.

The provisions of this code shall apply to all matters affecting or relating to structures and premises as set forth in Section 101. Where, in a specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive sections shall govern.

102.2 Existing installations.

Except as otherwise provided for in this chapter, a provision in this code shall not require the removal, alteration or abandonment

of, nor prevent the continued utilization and maintenance of an existing plumbing system lawfully in existence at the time of adoption of this code.

102.3 Maintenance.

Plumbing systems, materials and appurtenances, both existing and new, and all parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and sanitary condition. All devices or safeguards which are required by this code shall be maintained in compliance with the code edition under which installed. The owner or the owner's designated agent or the person collecting rent shall be responsible for maintenance of plumbing systems. To determine compliance with this provision, the code official shall have the authority to require any plumbing system to be re-inspected.

102.4 Additions, alterations or repairs.

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

Installed fixtures, piping or plumbing equipment of any premises found to be in an unsatisfactory or hazardous condition shall be repaired, renovated, replaced or removed immediately subsequent to the issuance of a written notice of the unsanitary or hazardous condition by the Plumbing Inspection Section of the Division of Building and Inspection, or by the Health Commissioner.

Minor additions, alteration, renovations and repairs to existing plumbing systems shall meet the provisions for new construction, unless such work is done in the same manner and arrangement as was in the existing system, is not hazardous and is approved.

102.5 Change in occupancy.

It shall be unlawful to make any change in the occupancy of any structure which will subject the structure to any special provision of this code applicable to the new occupancy without approval of the code official. The code official shall certify that such structure meets the intent of the provisions of law governing building construction for the proposed new occupancy and that such change of occupancy does not result in any hazard to public health, safety or welfare.

102.6 Historic buildings.

The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or moving of building or structures shall not be mandatory for existing buildings or structures identified and classified by the state or City of Saint Louis as historic buildings when such buildings or structures are judged by the code official to be safe and in the public interest of health, safety and welfare regarding any proposed construction, alteration, repair, enlargement, restoration, relocation or moving of buildings.

102.7 Moved buildings.

Except as determined by Section 102.2, plumbing systems that are a part of buildings or structures moved into or within the City of Saint Louis shall comply with the provisions of this code for new installations.

Before any structure that has been moved into or within the City of Saint Louis is occupied, the plumbing system shall be inspected and tested for safe operation and compliance with the requirements of this code. This testing shall be performed by a licensed plumber.

Exception: Unaltered plumbing systems within manufactured units bearing certification of the Missouri Public Service Commission.

102.8 Referenced codes and standards.

The codes and standards referenced in this code shall be those that are listed in Chapter 14 and in Appendix I and shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the most stringent provision shall apply. Referenced standards shall be permitted to be updated by the rule making authority of the code official.

102.9 Requirements not covered by code.

Any requirements necessary for the strength, stability or proper operation of an existing or proposed plumbing system, or for the safety of the occupants thereof, or for the public safety, health and general welfare, not specifically covered by this code, shall be determined by the code official.

102.10 Workmanship.

All work shall be conducted, installed and completed in a workmanlike and approved manner so as to secure the results intended by this code.

103.0 VALIDITY

103.1 Partial invalidity.

In the event that any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions thereof, which are determined to be legal; and it shall be presumed that this code would have been passed without such illegal or invalid parts or provisions.

103.2 Segregation of invalid provisions.

Any invalid part of this code shall be segregated from the remainder of the code by the court holding such part invalid, and the

remainder shall remain effective.

103.3 Decisions involving existing structures.

The invalidity of any provision in any section of this code as applied to existing buildings and structures shall not be held to affect the validity of such section in its application to buildings and structures hereafter erected.

104.0 SECTION OF PLUMBING REGULATIONS AND INSPECTIONS

104.1 General.

There is hereby created the Section of Plumbing Regulations and Inspections within the Division of Building and Inspection which shall have control and enforce all codes, regulations and ordinances pertaining to plumbing and drainlaying installations and systems in accordance with this code. The head of this section shall be known as the Plumbing Inspection Supervisor, who shall be appointed by the Building Commissioner. Throughout this code, the Plumbing Inspection Supervisor, the Chief Mechanical Engineer, the Building Commissioner and their authorized employees shall be referred to as the code official. The Building Commissioner shall be the ultimate authority on the interpretation and enforcement of the Code

104.2 Plumbing inspection supervisor (Chief Plumbing Inspector).

There shall be appointed by the Building Commissioner a Plumbing Inspection Supervisor (Chief Plumbing Inspector). The Plumbing Inspection Supervisor shall have served an apprentice training program or shall have a certificate of completion in plumbing technology from an accredited trade or technical institute. The Plumbing Inspection Supervisor shall also have ten (10) years experience as a licensed plumber and possess the qualifications established by the Department of Personnel.

104.3 Plumbing inspectors.

There shall be appointed by the code official a sufficient number of Plumbing Inspectors to adequately perform all inspection duties and enforce all ordinances pertaining to the Section of Plumbing Regulations and Inspections in accordance with subsequent sections of this code and City of Saint Louis budgetary constraints. All plumbing inspectors shall have had at least five (5) years experience as a licensed plumber and possess the qualifications set forth by the Department of Personnel.

104.3.1 Assistant to the supervisor. One such inspector shall assist the Plumbing Inspection Supervisor. The assistant shall assume the responsibilities of the Plumbing Inspection Supervisor in the Supervisor's absence or disability.

104.3.2 Restriction of employees. An official or employee connected with the Section of Plumbing Regulations and Inspections, except one whose only connection is that of a member of the Board of Examiners for Master Plumber, Drainlayer and Journeyman Plumbers, or a member of the Board of Examiners for Sprinkler System Contractors, or a member of the Committee of Plumbing Review, shall not be engaged in or directly or indirectly be connected with the furnishing of labor, materials, equipment or appliances for the construction, alteration or maintenance of a building, or the preparation of construction documents thereof, unless that person is the owner of the building, or a first degree relative of the owner of the building, nor shall such code official or employee engage in any work that conflicts with official duties or with the interests of the department.

104.4 Relief from personal liability.

The code official and employees charged with the enforcement of this code, while acting for the City of Saint Louis, shall not thereby be rendered liable personally, and are hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act required or permitted in the discharge of official duties.

Any suit instituted against any code official or employee because of an act performed by that person in the lawful discharge of duties and under the provisions of this code shall be defended by the City of Saint Louis City Counselor's Office until the final termination of the proceedings. The code official or any employees shall not be liable for any costs or judgment in or arising from any action, suit or proceeding that is instituted in pursuance of the provisions of this code. Any code official or employee of the Division of Building and Inspection, Department of Public Safety, acting in good faith and without malice, shall be free from liability for acts performed under any of its provisions or by reason of any act or omission in the performance of official duties in connection therewith.

The above protection shall also extend to former employees for work performed during their period of employment with the City of Saint Louis.

104.5 Official records.

An official record shall be kept of all business and activities of the department specified in the provisions of this code, and all such records shall be open to public inspection at all appropriate times.

A reasonable charge shall be established for making copies of documents. If staff time is required to assemble requested data, an estimate shall be made of personnel charges, including fringe benefits, and a signed agreement made prior to undertaking such projects. The Section of Plumbing Regulations and Inspections is not obligated to assemble data into formats that it does not use or need in the ordinary prosecution of its work.

105.0 DUTIES AND POWERS OF THE CODE OFFICIAL

105.1 General.

The code official shall enforce all of the provisions of this code and shall act on any question relative to the mode or manner of construction and the materials to be used in the erection, installation, alteration, repair, removal, maintenance or operation of all plumbing systems, devices, equipment and appliances, except as otherwise specifically provided for by statutory requirements or as provided for in Sections 105.2 through 105.7.

105.2 Applications and permits.

It shall be the duty of the code official to examine all applications and construction documents of proposed plumbing and drainlaying, and if the same are in all respects found to be in conformity with the provisions of this code, the code official shall approve them. The code official shall investigate all reported cases of improper plumbing, pipefitting and sprinkler fitting work or material, old or new, and of improper sanitation as to established principles of public health. The code official shall cause an inspection to be made of all water and sewer connections and approve all permits for excavations made for the purpose of making or repairing same. The code official shall cause the inspection of the plumbing and drain laying of all buildings, public and private, in the course of erection, alteration, reconstruction or repair and cause the inspection of existing plumbing as often as may be necessary in a manner and to the extent necessary to carry out the provisions of this code regulating plumbing and drain laying.

Exception: Buildings, structures or premises owned and occupied by the United States of America or the State of Missouri.

105.3 Notices and orders.

The code official shall issue all necessary notices or orders in writing to assure compliance with this code. The notice to the person having responsibility for the building, structure or premises found by the code official to be dangerous or in violation of this code shall be directed to that person by name, if known; if not known, then under the name of the owner or owners of the building, structure or premises as indicated by the records of the Assessors Office of the City of Saint Louis, and shall be served in any one of the following ways:

- A. Deliver to owner - by causing said notice to be delivered to such owner, either in the City of Saint Louis or elsewhere.
- B. Posting - by posting a copy of such notice upon the building or structure or premise.
- C. Mailing - by mailing such notice or copy thereof enclosed in a sealed envelope, postage prepaid, directed to such owner, either at the owner's place of business or residence address in the city or elsewhere; said notice to be deemed served twenty-four (24) hours after the mailing of said notice, in case it is directed to the business or residence address of the owner in the city. Provided that if said owner or owners be nonresidents of the city and have no business addresses or offices in the city, then the said notice shall be deemed served at the end of such period after the mailing thereof as in the ordinary course of transmission of the mail by the United States Postal Service.
- D. Publication - by publication in a newspaper of general circulation in the City of Saint Louis or in "The City Journal", said notice to be deemed served twenty-four (24) hours after publication.

105.3.1 Emergency condemnation. Whenever the code official shall find any building, structure, premises or portion thereof no matter for what purpose used, to be in an unsafe or dangerous condition and that there is an actual and potential danger to the occupants or those in the proximity of any building, structure or premises which poses an immediate danger to public safety or welfare, the code official shall order the immediate evacuation of said building, structure or premises. All of the occupants so notified shall immediately vacate the building, structure, or premises and no person shall re-enter until authorized to do so by the code official.

Any person who refuses to leave, interferes with the evacuation of other occupants, or continues any operation after having been given an evacuation order by the code official, except such person(s) directed to perform work to remove a violation or unsafe condition, shall be deemed in violation of this section whereupon it shall be the duty of the Police Department to immediately remove such person(s) from said building, structure, or premises and prevent anyone from re-entering the building, structure or premises until such time that the Police Department shall have been notified by the Building Division that the same is in a safe condition.

Any person who shall violate any provisions of this section shall, upon conviction thereof, be penalized as set forth in Section Four.

105.3.2 Authority to placard. The code official has the authority to post a placard in a conspicuous place on a building or premises where the plumbing system has been found to be unsafe or inadequate.

105.3.3 Placarded building. Placards shall remain on said building until the required repairs, replacements or improvements have been made and accepted by the code official, and it shall be unlawful to deface or willfully remove any such placard that has been posted on a building without first obtaining consent of the code official. It shall be unlawful for any person to reside in, use, rent, lease or occupy such building for any purpose while so placarded and no person shall remove said placards without the consent of the code official.

105.4 Inspections.

The code official shall make all of the required inspections, or the code official may accept reports of inspection by approved

agencies, design professionals or individuals, and all reports of said inspections shall be in writing and certified by a responsible officer of said approved agency or by the responsible individual. The code official is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise subject to the approval of the appointing authority. The owner shall provide such special inspections as are required by the code official.

105.4.1 Dangerous, hazardous, unsanitary, or unapproved installations. The code official shall have the authority to seal out of service plumbing equipment, devices and appurtenances covered by the Building and Plumbing Codes when, in the code official's opinion, any of these items are in an unsafe, hazardous, or unsanitary condition, or if the installation was made without obtaining the necessary permit or permits, or if the installation violates the provisions of these codes.

105.4.2 Notice of sealing out of service. Before sealing any device out of service, the code official shall, except in cases of emergency, serve ten (10) calendar days written notice upon the building owner, occupant or collector of rent as directed in Section 105.2.

105.4.3 Unlawful to remove seal. Any device sealed out of service by the code official shall be plainly marked with a sign or tag indicating such sealing, and any defacing or removal of the sign or tag, or any tempering with or removal of the seal without approval of the code official, or operation of the sealed unit, shall constitute a violation of this code. The penalty for violation of this section shall be as set forth in Section Four.

105.4.4 Utility disconnect. Whenever the code official determines that there is an eminent danger to public safety, the code official may request that the public utilities be disconnected to that structure or premises.

105.5 Identification.

The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

105.6 Rule making authority.

The code official shall have authority as necessary in the interest of public health, safety and general welfare, to adopt and promulgate rules and regulations to interpret and implement the provisions of this code to secure the intent thereof, and to designate requirements applicable because of local climatic or other conditions. Such rules shall not have the effect of waiving structural or fire performance requirements specifically provided for in this code or of violating accepted engineering practice involving public safety.

105.6.1 Accepted engineering practice. In the absence of provisions not specifically contained in this code or approved rules, the regulations, specifications and standards listed in Chapter 14 and Appendix I shall be deemed to represent accepted engineering practice in respect to the material, equipment, system or method of construction therein specified.

105.6.2 Suspensions and cancellations. The code official shall have the power and is directed to suspend for a definite time or to cancel any license granted hereunder, if, after notice and opportunity to be heard, the party named therein is found guilty by the Board of Examiners of violating rules and regulations established by the Section of Plumbing Regulation and Inspections, and do all other acts necessary to carry out these provisions. The code official shall review all notices and licenses required to be issued by the Section of Plumbing Regulations and Inspections and keep a record of all transactions.

105.7 Department records.

The code official shall keep official records of plumbing applications received, permits issued, licenses issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for three (3) years, except notices and orders which have been complied need not be kept.

Original or file copies, when subpoenaed, shall be electrostatic copies certified by the code official to be true and accurate copies of original documents. Original documents shall remain in the possession of the Section of Plumbing Regulations and Inspections, unless filed with the Central File Section of the Division of Building and Inspection.

105.8 Right of entry.

Whenever it is necessary to make an inspection to enforce the provisions of this code, or whenever the code official has reasonable cause to believe that there exists in a building or upon any premises any condition or violation of this code which makes the building or premises unsafe, unsanitary, dangerous or hazardous, the code official shall have the authority to enter the building or premises at all reasonable times to inspect or to perform the duties imposed upon the code official by this code. If such building or premises is occupied, the code official shall present credentials to the occupant and request entry. If such building or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the code official has recourse to every remedy provided by law to secure entry.

When the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to promptly permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

105.9 By whom work is performed.

The code official shall see that all plumbing, pipefitting, sprinkler fitting, drain laying and sewer work is done in accordance with the provisions of this code and that the work is performed by licensed plumbing, drain laying, mechanical pipefitter and sprinkler

fitter contractors within the City of Saint Louis.

Exception: Buildings, structures or premises owned and occupied by the United States of America or the State of Missouri.

106.0 APPROVAL

106.1 Approved materials and equipment.

All materials, equipment and devices approved for use by the code official shall be constructed and installed in accordance with such approval.

106.2 Modifications.

Whenever there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases, provided the code official shall first find that the special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements.

106.2.1 Records. The application for modification and the final decision of the code official shall be in writing, and shall be officially recorded with the application for the permit in the records of the Division of Building and Inspection.

106.3 Used material, equipment and devices.

Materials, equipment and devices shall not be reused unless such elements have been reconditioned, tested and placed in good and proper working condition and approved by the code official.

106.4 Alternative materials, methods and equipment.

The provisions of this code are not intended to prevent the installation of any material or equipment or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, equipment or method of construction shall be approved where the Committee of Plumbing Review and the code official finds that the proposed design is satisfactory and complies with the intent of 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 for quality, strength, effectiveness, fire resistance, durability and safety.

106.4.1 Research and investigations. The Committee of Plumbing Review and the code official shall require that a nationally accredited listing agency approve the proposed use of any material or assembly, and if it is determined that the evidence submitted is satisfactory proof of performance for the use intended, the Committee of Plumbing Review and the code official shall approve its use subject to the requirements of this code. The costs of all tests, reports and investigations required under these provisions shall be paid by the applicant or owner.

106.4.2 Research reports. Supporting data, when required by the Committee of Plumbing Review and the code official to assist in the approval of all materials or assemblies not specifically provided for in this code, shall consist of duly authenticated research reports from approved sources.

106.5 Required testing.

Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, the Committee of Plumbing Review and the code official shall require that sufficient technical data and/or test data be submitted to substantiate the proposed use of any material, equipment, assembly or method, and if it is determined that the evidence submitted by an approved agency is satisfactory proof of performance for the use intended, the Committee of Plumbing Review and the code official shall approve its use subject to the requirements of this code. The costs of all tests, reports and investigations required under these provisions shall be paid by the applicant.

106.5.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. The code official has the authority to approve a testing procedure in the absence of recognized and accepted test methods.

106.5.2 Testing agency. All tests shall be performed by an approved independent testing agency.

106.5.3 Test reports. Reports of test shall be retained by the code official for a period required for the retention of public records.

106.6 Alternative engineered design.

The design, documentation, inspection, testing and approval of an alternative engineered design plumbing system shall comply with sections 106.6.1 through 106.6.6.

106.6.1 Design criteria. An alternative engineered design shall conform to the intent of the provisions of this code, and shall provide an equivalent level of quality, strength, effectiveness, fire resistance, durability and safety. Material, equipment or components shall be designed and installed in accordance with the manufacturer's installation instructions.

106.6.2 Submittal. The licensed design professional shall indicate on the permit application that the plumbing system is an alternative engineered design. The permit and permanent permit records shall indicate that an alternative engineered design was part of the approved installation.

106.6.3 Technical data. The licensed design professional shall submit sufficient technical data to substantiate the proposed alternative engineered design and to prove that the performance meets the intent of the code.

106.6.4 Construction documents. The licensed design professional shall submit to the Committee of Plumbing Review and the code official two complete sets of sealed, signed and dated construction documents for the alternative engineered design. The construction documents shall include floor plans and a riser diagram of the work. When appropriate, the construction documents shall indicate the direction of flow, all pipe sizes, grade of horizontal piping, loading and location of fixtures and appliances.

106.6.5 Design approval. Where the Committee of Plumbing Review and the code official determine that the alternative engineered design conforms to the intent of this code, the plumbing system shall be approved. If the alternative engineered system is not approved, the code official shall notify the licensed design professional in writing, stating the reasons.

106.6.6 Inspection and test. The alternative engineered design shall be tested and inspected in accordance with the requirements of Section 108 and 301.2.

If the alternative engineered design does not pass the test and inspection to the satisfaction of the code official, the system must be modified, re-tested and re-inspected until testing and inspection of the alternative engineered system is shown to meet the intent of the provisions of this code to the satisfaction of the code official.

107.0 PERMITS

107.1 When required.

Any owner, lessee, authorized agent or contractor who desires to construct, enlarge, alter, repair, move, demolish or change the occupancy of a building or structure or premises, or to erect, install, enlarge, alter, repair, remove, convert or replace any plumbing system, the installation of which is regulated by this code, or to cause any work to be done, shall engage a licensed plumbing contractor who shall first make application to the code official and obtain the required permit for the work. All work shall be done by the person or corporation in whose name the permit or permits required by this section are issued. Any person who shall fail to comply with or who shall violate any of the provisions of this section shall be subject to the penalty provisions of Section Four.

107.2 Permits not required.

Permits shall not be required for any of the following:

- A. The stopping of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a permit shall be obtained and inspection made as provided in this code.
- B. The cleaning of stoppages or the repairing of leaks in pipes, valves or fixtures, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.
- C. Minor Repairs as used in this section shall mean repairs to traps or cocks, opening waste or supply pipes, traps or drains or frozen pipes. Minor repairs shall not include the doing of any work where connection to soil pipes, supply pipes, waste pipes or vent pipes are disturbed or inside leader pipes are used; nor shall it include the setting or replacing of fixtures.
- D. Temporary plumbing installations for demonstration purposes which are not connected to either the public water supply or the public sewer system.

Exemption from the permit requirements of this code shall not be deemed to grant authorization for work to be done in violation of the provisions of this code or other laws or ordinances of the City of Saint Louis.

107.3 Application for permit.

Each application for a permit, with the required fees, shall be filed with the code official in such written form as the code official prescribes and shall be accompanied by an adequate written description of the proposed plumbing work and its location.

107.4 By whom application is made.

The application for permit shall be made by the license holder responsible for the proposed installation of all or part of any plumbing system. The applicant shall meet all qualifications established by rules promulgated with this code or by ordinance, resolution, or statute. The full names, addresses and telephone numbers of the owner, lessee, and the applicant shall be stated in the application. Any changes must be in writing and forwarded to the code official within 5 working days of the change.

107.5 Description of work.

The applicant shall list the number of fixtures of each type to be installed, the location of the work, and the use and occupancy of the building in which the work is to be performed.

107.6 Construction documents.

The code official is authorized to require the submission and approval of a set of construction documents showing the nature and

extent of the proposed work before a permit is issued. If, in the course of the work, it is found necessary to make any change from the approved construction documents on which a permit has been issued, amended construction documents shall be submitted, and if approved, a supplementary permit shall be issued, after payment of any additional fees, to cover the change after the same conditions required to secure the original permit have been satisfied. The code official is permitted to waive the requirements for filing construction documents where the work involved is of a minor nature. When the quality of the materials is essential for conformity to this code, specific information shall be given to establish such quality, and this code shall not be cited, or the term "legal" or its equivalent used as a substitute for specific information.

A plumbing hold or denial shall be placed on construction documents that are incomplete or are not drawn in compliance with this code.

When inspection by the Section of Plumbing Regulations and Inspection reveals that work is not being performed in compliance with this code, the code official shall be authorized to require the submission and approval of construction documents if these documents have not been submitted and approved prior to the issue of the plumbing permit.

The code official is authorized to require the submission of specific information in order to determine compliance with this code.

All construction documents prepared by a licensed design professional shall bear the original seal, date and signature in ink of that person. On each sheet, where applicable, construction documents shall indicate how required structural and fire resistance rating integrity will be maintained, and where penetrations will be made for plumbing systems.

107.6.1 Types of construction documents. Construction documents, where required by the code official, shall include a floor plan and a riser diagram showing the work. Such documents shall show the direction of flow, pipe size, grade of horizontal piping, elevations, drainage fixture unit loads of both stacks and drains in the drain, waste and vent systems, and the supply fixture unit load for the water system and any branch supplies which serve more than one plumbing fixture, appliance or hose outlet.

107.6.2 Requirements for plumbing construction documents. Plumbing construction documents shall be available for review at the job site on every project requiring a plumbing permit except construction or renovation of:

1. Residential structures, four families or less;
2. Structures with less than twenty (20) plumbing fixtures and less than ten thousand (10,000) square feet of roof area.

107.6.3 Construction document content. Plumbing construction documents submitted for review shall contain the following:

1. A plot plan drawn to scale showing sewer and water services;
2. Floor plans and roof plan;
3. Schematic stack/vent diagram indicating fixture units connected to each stack at each level, fixture unit totals carried by each stack, and totals collected by the under floor drains (ground work);
4. Pipe sizes for all piping covered above;
5. Flow line elevations for all under floor piping and outside piping; also the percent of slope on which pipe sizing is based. Depth of footings and sleeves shall be indicated. Profiles are preferred;
6. Schematic roof leader diagram, showing each roof drain, its collection area, and the leader it connects to;
7. Total roof area connected to each roof leader, total roof areas carried by connecting storm drains, and the combined load carried by the main house sewer;

NOTE: City of Saint Louis code uses six (6) inches per hour rainfall;

8. Details for pipe bracing and supports, bath trap access, size of interceptors, clean out locations, expansion joints, manholes, house traps, sump pump settings, garage traps, stack flashing, back water protection, and sub-soil drains;
9. Schematic supply riser diagrams showing total supply fixture units connected at each level, the total carried by each riser, and the total supply fixture units carried by supply headers and water service;
10. Pipe sizes for items covered above;
11. Location of pressure regulators to restrict pressure on fixtures to less than eighty (80) psi (where house

pumps are used);

12. Details for backflow protection at special equipment and fire suppression systems, water heater relief valves, safe pans, hot water circulation, system and riser valves, pipe supports and bracing, and water metering arrangements.

107.6.4 Drain-waste-vent pipe (DWV). Specifications for DWV pipe materials, supply pipe materials, valves, pumps, fixtures and backflow prevention devices shall be included on the plumbing construction documents or attached thereto.

107.6.5 Seismic installations. Construction documents for installations which must meet the seismic requirements of the building code shall show the details of all pertinent anchorage and bracing and shall bear the original seal, date and signature in ink of a licensed design professional licensed to practice in the State of Missouri.

107.6.6 Engineering details. The code official shall require adequate details to be filed of plumbing work, including computations and other technical data.

The plumbing drawings submitted for a permit shall be sealed, dated and signed by a licensed professional engineer with current Missouri registration, or submitted by a Licensed Plumbing Contractor with their license number and notarized signature.

107.7 Amendments to application.

Subject to the time limitations of Section 107.8, amendments to the construction documents, application or other records accompanying the same shall be filed at any time before completion of the work for which the permit is sought or issued. Such amendments shall be deemed part of the original application and shall be filed in the same manner as the original.

107.8 Time limit of application.

An application for a permit for any proposed work shall be deemed to have been abandoned six (6) months after the date of filing, unless such application has been diligently prosecuted or a permit shall have been issued. The code official shall grant one or more extensions of time for additional periods not exceeding six (6) months if there is reasonable cause.

107.9 Previous approvals.

Except for unsafe plumbing systems, this code shall not require changes in the construction documents or plumbing work for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the installation of which shall have been actively prosecuted within ninety (90) days after the effective date of this code and completed with dispatch.

107.10 Permit issuance.

The application, construction documents and other data filed by an applicant for permit shall be reviewed by the code official. If the code official finds that the proposed work conforms to the requirements of this code and all laws and ordinances applicable thereto, and that the fees specified in Section 107.11 have been paid, a permit shall be issued to the applicant. A plumbing permit shall not be transferable.

If the application or the construction documents do not conform to the requirements of all pertinent ordinances of the City of Saint Louis, the code official shall reject such application in writing, stating the reasons therefor.

107.10.1 Approved construction documents. When the code official issues a permit where construction documents are required, such approved construction documents shall not be changed, modified or altered without authorization from the design professional and the code official. Work shall be done in accordance with the approved construction documents.

107.10.2 Approval in part. The code official is authorized to issue a permit for the installation of a part of a plumbing system before the whole system has been submitted or approved, provided adequate information and detailed statements have been filed complying with all the pertinent requirements of this code. The holder of such permit shall proceed at their own risk without assurance that the permit for the entire plumbing system will be granted.

107.10.3 Validity. The issuance of a permit or approval of construction documents shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of other ordinances of the City of Saint Louis. A permit presuming to give authority to violate or cancel the provisions of this code shall be invalid

The issuance of a permit based upon construction documents and other data shall not prevent the code official from thereafter requiring the correction of errors in said construction documents and other data or from preventing building operations from being carried on thereunder when in violation of this code or of other ordinances of the City of Saint Louis.

107.10.4 Expiration. Every permit issued by the code official under the provisions of this code shall expire by limitation and become null and void if the work authorized by such permit is not commenced within six (6) months from the date of such permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of six (6) months. Before such work recommences, a new permit shall be first obtained and a new fee paid.

107.10.5 Extensions. Any permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit when work is unable to be commenced within the time

required by this section for good and satisfactory reasons. The code official may grant one or more extensions of time for additional periods if there is reasonable cause, the total of which shall not exceed six (6) months.

107.10.6 Suspension or revocation of permit. The code official shall suspend or revoke a permit or approval issued under the provisions of this code in case of any false statement or misrepresentation of fact in the application or on the construction documents upon which the permit or approval was based. A permit shall also be considered for revocation under the following provisions:

1. The owner of the property or the contractor shall request cancellation in writing stating the reasons for the request for cancellation. No refund of fees shall be made.
2. The code official may revoke the permit for fraud.
3. The code official may revoke the permit for non-compliance with the code.
4. The code official may revoke the permit for failure to pay the prescribed fees.
5. A permit may be revoked if payment is returned for insufficient funds.

Before a permit is considered for revocation prior to the completion of all work, the permit holder shall request an inspection of the work that has been completed. Upon inspection, if the work complies with the code and is done in a workmanlike manner, the code official shall so indicate in writing to the person requesting revocation.

107.10.7 Work not in compliance. Should the plumbing contractor install work that is not in compliance with the plumbing, fire or building code, the contractor shall be directed by the code official to make necessary corrections to assure code compliance and no other permits shall be issued to said contractor until such work is corrected and approved by the code official.

107.10.8 Retention of construction documents. One (1) set of construction documents shall be retained by the code official until final approval of the work covered therein. One (1) set of construction documents shall be returned to the applicant and said set shall be kept at the site of the building or work at all times during which the work authorized thereby is in progress.

107.10.9 Posting of permit. A true copy of the permit shall be kept on the site of operations, open to public inspection during the entire time of prosecution of the work and until the completion of the same.

107.11 Fees.

A permit shall not be issued until the fees prescribed in Table 107.11.3 have been paid, nor shall an amendment to a permit necessitating an additional fee because of the additional work involved be released until the additional fee has been paid. Fees for the inspections herein prescribed shall be paid to and collected by the City of Saint Louis. A permit shall be revoked if payment is returned for insufficient funds.

107.11.1 Work commencing before permit issuance. In case any work for which a permit required by this code is started or proceeded with prior to the permit being issued, the total normal fees applicable shall be increased by the amount as set forth in Table 107.11.1. The payment of said surcharge shall not relieve any persons from fully complying with the requirements of this code for performance or execution of the work, nor from other penalties prescribed by law.

**TABLE 107.11.1
SCHEDULE FOR SURCHARGE**

PERMIT FEE	SURCHARGE
\$ 0 TO \$ 50	\$ 30.00
\$ 51 TO 200	\$ 90.00
\$ 201 TO \$ 500	\$ 240.00
\$ 501 TO \$ 2,000	\$ 360.00
\$ 2,001 TO \$ 10,000	\$ 480.00
OVER \$ 10,000	\$ 1,000.00

107.11.2 Inspection fees. It shall be the duty of the code official to cause the following inspections to be made as required by this code. An inspection is to be made of each tap, water connection or extension, each sewer extension, and for repairs of water service pipe, or of sewer pipe, whether on a public or private street, alley, thoroughfare or premises. Inspection shall also be made after completion of all work and be known as a finish inspection. Mechanical pipefitting and sprinkler fitting installations shall also be inspected.

107.11.3 Fee schedule. Fees for new construction or alteration of plumbing systems and inspections thereof shall be paid

to and collected by the City of Saint Louis as indicated in Table 107.11.3.

**TABLE 107.11.3
PLUMBING FEES**

TYPE	FEE
Application Fee	\$ 25.00
Tap, water connection or extension, each	\$ 20.00
Sewer extension, connection or repair, each	\$ 20.00
Irrigation System, each (does not include backflow device)	\$20.00
Fixtures, each (floor drain, sump, water heater, reduced pressure backflow device or double gate/double check valve, roof drain or trapped outlet)	\$ 5.00
Test of a reduced pressure backflow device or double gate/double check valve	\$ 35.00
Late fee for all backflow tests not performed within 30 days of anniversary date, each	\$25.00
Rough inspection, each	\$ 20.00
Finish inspection, each	\$ 20.00
Re-inspection, each	\$25.00
Special inspection, each	\$40.00

One rough inspection and one finish inspection for every 20 fixtures or fraction thereof; one additional rough inspection and one additional finish inspection for every 20 additional fixtures or fraction thereof.

107.11.4 Re-inspections. Re-inspections of plumbing installations and systems on any premises shall be made when deemed necessary by the code official or where a re-inspection is required to be made due to faulty workmanship or work not completed at the time of a requested inspection. Fees for a re-inspection fee shall be as indicated in Table 107.11.3.

107.11.5 Fees for abandoned work or revoked permit. Fees shall not be waived or refunded for any plumbing permit that has been abandoned, canceled or revoked.

107.11.6 Special inspections. A special inspection may be requested by the owner or occupant of a building or premises. Fees for special inspections shall be as indicated in Table 107.11.3.

108.0 INSPECTIONS AND TESTING

108.1 Required inspections and testing.

The code official upon notification from the permit holder or the permit holder’s agent, shall make the following inspections and other such inspections as necessary, and shall either release that portion of the construction or shall notify the permit holder or agent of any violation which must be corrected. The holder of the permit shall be responsible for the scheduling of such inspections. All inspections are visual inspections. The contractor shall be responsible for repairing defects hidden from the inspector.

1. Underground inspections shall be made after trenches or ditches are excavated and bedded, piping installed, and before any backfill is put in place. When excavated soil contains rocks, broken concrete, frozen chunks and other rubble which would damage, break the piping or cause corrosive action, clean backfill shall be on the job site next to trenches or ditches.
2. Rough-in inspection shall be made after the roof, framing, fireblocking, firestopping, draftstopping and bracing is in place and all sanitary, storm and water distribution piping is roughed-in, and prior to the installation of wall and ceiling membranes. Any portion of the plumbing system covered by the permit which is intended to be concealed by any permanent portion of the structure shall not be concealed until inspected. The code official shall have the authority to require any concealment to be removed. Failure to comply with this order of the code official may result in condemnation of the structure or any part thereof and prohibition of occupancy. Furthermore, the plumbing contractor shall not be issued any other permits until such work is properly inspected and approved by the code official.

3. Final inspection shall be made after the building is complete, all plumbing fixtures are in place and properly connected, and the structure is ready for occupancy. All violations of any code, any approved construction document or the plumbing permit shall be noted, and the holder of the plumbing permit shall be notified in writing of the discrepancies. All violations shall be abated before final approval. If the plumbing contractor refuses to abate any violation, the contractor shall not be issued any other permits until such violation is remedied, properly inspected and approved by the code official.

108.1.1 Approved inspection agencies. The code official shall accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualification and reliability.

108.1.2 Evaluation and follow-up inspection services. Prior to the approval of a closed, prefabricated plumbing system and the issuance of a plumbing permit, the code official shall require the submittal of an evaluation report on each prefabricated plumbing system, indicating the complete details of the plumbing system, including a description of the system and its components, the basis upon which the plumbing system is being evaluated, test results and similar information, and other data as necessary to the code official to determine conformance to this code.

108.1.2.1 Evaluation service. The code official shall designate the evaluation service of an approved agency as the evaluation agency, and review such agency's evaluation report for adequacy and conformance to this code.

108.1.2.2 Follow-up inspection. Except where ready access is provided to plumbing systems, service equipment and accessories for complete inspection at the site without disassembly or dismantling, the code official shall conduct the in-plant inspections as frequently as necessary to assure conformance to the approved evaluation report or shall designate an independent approved inspection agency to conduct such inspections. The inspection agency shall furnish the code official with the follow-up inspection manual and a report of inspections upon request, and the plumbing system shall have an identifying label permanently affixed to the system indicating that factory inspections have been performed.

108.1.2.3 Test and inspection records. All required test and inspection records shall be available to the code official at all times during the fabrication of the plumbing system and the erection of the building; or such records as the code official designates shall be filed.

108.2 Special inspections.

Special inspections of alternative engineered design plumbing systems shall be conducted in accordance with Sections 108.2.1 and 108.2.2.

108.2.1 Periodic inspection. The licensed design professional or designated inspector shall periodically inspect and observe the alternative engineered design to determine that the installation is in accordance with the approved plans. All discrepancies shall be brought to the immediate attention of the plumbing contractor for correction. Records shall be kept of all inspections.

108.2.2 Written report. The licensed design professional shall submit a final report in writing to the code official upon completion of the installation, certifying the alternative engineered design conforms to the approved construction documents. A notice of approval for the plumbing system shall not be issued until a written certification has been submitted.

108.3 Testing.

Plumbing systems shall be tested as required in this code and in accordance with Sections 108.3.1 through 108.3.3. Tests shall be made by the permit holder and observed by the code official.

108.3.1 New, altered, extended or repaired systems. New plumbing systems and parts of existing systems, which have been altered, extended or repaired shall be tested as prescribed herein to disclose leaks and defects, except that testing is not required in the following cases:

1. In any case which does not include addition to, replacement, alteration or relocation of any water supply, drainage or vent piping.
2. In any case where plumbing equipment is set up temporarily for exhibition purposes and is not connected to the public water supply or the public sewer system.

108.3.2 Equipment, material and labor for tests. All equipment, material and labor required for testing a plumbing system or part thereof shall be furnished by the permit holder.

108.3.3 Re-inspection and testing. Where any work or installation does not pass an initial test or inspection, the necessary corrections shall be made so as to achieve compliance with this code. The work or installation shall then be resubmitted to the code official for inspection and testing.

108.4 Contractor's responsibilities.

It shall be the duty of every contractor who enters into contracts for the installation or repair of plumbing systems for which a permit

is required to comply with adopted federal, state and local rules and regulations concerning certification and licensing.

108.5 Coordination of inspections.

Whenever in the enforcement of this code or another code or ordinance, the responsibility of more than one code official is involved, it shall be the duty of the code officials involved to coordinate their inspections and administrative orders as fully as practicable so that the owners and occupants of the structure shall not be subjected to visits by numerous inspectors or multiple or conflicting orders. Whenever an inspector from any agency or department observes an apparent or actual violation of some provision of some law, ordinance or code not within the inspector's authority to enforce, the inspector shall report the findings to the proper code official.

108.5.1 Legal compliance. All legal assistance necessary to effect compliance of the plumbing systems of such premises with this section shall be supplied to the code official by the City Counselor and other City of Saint Louis agencies. The Fire and Police Departments of the City of Saint Louis shall, upon request, assist the code official in the enforcement of this code.

108.6 Approval.

After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official.

108.7 Temporary connection.

The code official shall have the authority to authorize the temporary connection of the building or system to the utility source for the purpose of testing plumbing systems or for a temporary certificate of occupancy.

108.8 Plumbing inspection certificate.

The Section of Plumbing Regulations and Inspection, upon completion of repair and remodeling work, as per permit issued, shall, upon request of the property owner, the occupant or the licensed plumbing contractor, furnish a plumbing inspection certificate to the property owner or occupant who has authorized the work to be performed. The plumbing inspection certificate shall state the address of where the work was performed, name and license number of the licensed plumbing contractor performing the work, permit number, approved by inspector's signature, the inspector's identification number, date and time of inspection. Certificates, upon request, shall be filled out by plumbing inspectors within ninety (90) days of the final inspection.

109.0 VIOLATIONS

109.1 Unlawful acts.

It shall be unlawful for any person, firm or corporation to erect, construct, alter, repair, remove demolish or utilize any plumbing system, or cause same to be done, in conflict with or in violation with any of the provisions of this code. All work shall be conducted, installed and completed in a workmanlike and approved manner so as to secure the results intended by this code.

109.2 Notice of violation.

The code official shall serve a written notice of violation or order, as heretofore described in Section 105.3, to the person, firm, or corporation responsible for the erection, installation, alteration, extension, repair, removal, demolition or operation of plumbing equipment or systems in violation of the provisions of this code, or in violation of a detailed statement, or the approved construction documents thereunder, or in violation of a permit issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation. Failure to comply with the written order of the code official may result in revocation of the bond and/or license of that person, firm or corporation. Failure to comply with the order of the code official may result in the denial to issue any additional permits in that person's, firm's or corporation's name.

109.2.1 Written notice of violation. If the building inspection, re-inspection, or test reveals failure of any new installation, addition, alteration, maintenance or replacement to comply with the provisions of this code, the installation shall be declared unlawful by the code official, and a written notice of violation shall be given or mailed to either the responsible individual, person, firm or corporation to whom the permit was issued, or to the legally authorized representative of the permit holder.

109.3 Prosecution of violation.

If the notice of violation is not complied within the time stated in the notice of violation, but no longer than thirty (30) days, the code official shall request the legal counsel of the City of Saint Louis to institute the appropriate proceedings at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the structure in violation of the provisions of this code or of the order or direction made pursuant thereto. The time for compliance may be extended by the code official, upon written request, if there are extenuating circumstances.

109.4 Violation penalties.

Any person, partnership or corporation who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair plumbing equipment or systems in violation of the approved construction documents or directive of the code official, or of a permit or license issued under the provisions of this code, shall, upon conviction thereof, be penalized as set forth in Section Four.

109.5 Stop work order.

Upon notice from the code official that plumbing work is being done contrary to the provisions of this code or in a dangerous or unsafe manner, or without permit, or by unlicensed individuals, such work shall immediately cease. Such notice shall be in writing

and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work. The stop work order shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe conditions, shall be subject to immediate arrest and, upon conviction thereof, be penalized as set forth in Section Four.

109.6 Abatement of violation.

The imposition of the penalties herein prescribed shall not preclude the legal officer of the City of Saint Louis from instituting appropriate action to prevent unlawful construction or to restrain, correct or abate a violation, or to prevent illegal occupancy of a building, structure or premises, or to stop an illegal act, the conduct of business or the utilization of plumbing equipment or systems on or about any premises.

109.7 Unsafe plumbing.

Any plumbing system that is unsafe, constitutes a fire or health hazard, unsanitary condition or is otherwise dangerous to human life, as regulated by this code, is hereby declared as an unsafe plumbing system. Use of a plumbing system regulated by this code constituting a hazard to health, safety or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is hereby declared an unsafe use. Such unsafe equipment is hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal.

109.7.1 Authority to condemn plumbing systems. Whenever the code official determines that any plumbing system, or portion thereof, regulated by this code has become hazardous to life, health, property, or has become unsanitary, the code official shall order in writing that such plumbing either be removed or restored to a safe condition. A time limit for compliance with such order shall be specified in the written notice. A person shall not use or maintain a defective plumbing system after receiving such notice.

When such plumbing system is to be disconnected, written notice as prescribed in Section 109.2 shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

109.7.2 Authority to order disconnection of utilities. The code official shall have the authority to order disconnection of any utility supplied to a building, structure or plumbing system regulated by this code when it is determined that the plumbing system or any portion thereof has become hazardous, unsafe or unsanitary. Written notice of such order to disconnect service and the causes therefor shall be given within twenty-four (24) hours to the owner and occupant of such building, structure, or premises, provided, however, that in cases of immediate danger to life of property, such disconnection shall be made immediately without such notice. The code official shall immediately notify the serving utility in writing of the issuance of such order to disconnect.

109.7.3 Connection after order to disconnect. A person shall not make utility connections to plumbing systems regulated by this code which have been disconnected or ordered to be disconnected by the code official, or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such plumbing system.

When any plumbing system is maintained in violation of this code, and in violation of a notice issued pursuant to the provisions of this section, the code official shall institute any appropriate action to prevent, restrain, correct or abate the violation.

109.7.4 Authority to order vacation of structure. When there is an actual and immediate condition which would endanger life, the code official is hereby authorized and empowered to order and require the occupants to vacate a structure forthwith. The code official shall cause to be posted at each entrance to such structure a notice reading as follows: **DANGER! ALL PERSONS ARE WARNED TO USE EXTREME CAUTION IN OR AROUND THESE PREMISES.** It shall be unlawful for any person to enter such structure except for the purpose of making the required repairs or removal. The procedure for this notice shall be as set forth in Section 105.3.

109.8 Time for compliance and notification to department.

All notices of violation shall indicate the requirement of immediate compliance. Upon compliance of violation, the recipient of the notices, the recipient's agent, contractor or subcontractor shall notify the code official according to the procedure set forth in this code. Upon notification, the code official shall re-inspect the premises in which the violation was found, and if compliance is shown to exist, the violation notice shall be terminated and type of inspection recorded.

109.8.1 Noncompliance. On new construction, alterations, additions or replacements, violations not abated within 10 days shall be referred to court. On existing structures which involve occupancy, general rehabilitation, or other problems which involve the development of construction documents or issuance of a building permit, restoration to original occupancy, or other problems which require concurrent action by other departments of the City of Saint Louis, the code official may make its compliance date of any violation notice with regard to any given premises coincide with the compliance date of violations against the same premises by said other departments of the City of Saint Louis.

109.8.2 Immediate compliance. The following types of violations may be followed immediately by referral to court:

1. Failure to secure any required plumbing permit or permits;

2. Operating as a Plumbing Contractor, Drainlayer, Sprinkler Fitter or Mechanical Pipefitter Contractor or as an installer of plumbing without compliance with licensing and registration requirements of this code;
3. Failure to maintain a plumbing system in a safe and/or sanitary condition;
4. Creation of a nuisance or a hazard to either health or safety.

109.8.3 Compliance. Any violation pertaining to any otherwise illegal installation of plumbing shall be referred to a court of competent jurisdiction if not abated within a reasonable time after issuance of the notice of violation by the code official.

109.8.4 City counselor. The City Counselor shall assign such employees as from time to time are necessary to prepare and present to the City Court, or if necessary, to higher courts, the facts pertaining to any violation which has exceeded the time specified in sections of this code, or if no time is specified, any reasonable time in the judgment of the code official.

109.8.5 Court dates and re-inspections. Before requesting the court to hear any incomplete violation case, the premise involved shall be re-inspected and then the code official assigned to act as a witness for the case shall set forth the facts in a record and the court shall specify the date of the hearing.

110.0 MEANS OF APPEAL

110.1 Appeals.

Any person aggrieved by the decision of the code official, or any Board hereunder, may appeal said decision to the Board of Building Appeals in the manner prescribed in the building code. The fee for said appeal shall be as prescribed in said building code.

111.0 BOARD OF EXAMINERS FOR MASTER PLUMBERS, MASTER DRAINLAYERS AND JOURNEYMAN PLUMBERS

111.1 How constituted.

The Mayor, with the approval of the Board of Aldermen, shall appoint one (1) City of Saint Louis certified Master Plumber, one (1) City of Saint Louis licensed Master Drainlayer (not a Plumber/Drainlayer) and one (1) City of Saint Louis licensed Journeyman Plumber. Each of whom shall be a resident of the City of St. Louis, each of whom shall be a United States citizen, and each of whom shall have been actively engaged at the trade or business of plumbing for five (5) years in the Saint Louis metropolitan area. These three (3) members, together with the Health Commissioner or the Health Commissioner's duly appointed representative, who shall be Chairman Ex Officio, shall constitute the Board of Examiners.

111.2 Term of office, compensation.

The members of the Board of Examiners, except the Health Commissioner or the Health Commissioner's duly appointed representative, shall hold office for a term of four (4) years or until their successors are duly qualified, unless removed by the Mayor. They shall, except the Health Commissioner or the Health Commissioner's duly authorized representative, receive compensation for their services, as provided by separate ordinance on a per-meeting basis.

111.3 Powers and duties of the Board of Examiners.

It shall be the duty of the Board of Examiners to meet on the fourth Monday of each month (the Board may make variances when a holiday falls on this date) to: hear and determine any charges or complaints which may be lawfully made against any Master Plumber, Drainlayer or licensed Journeyman Plumber; approve apprentice applications; and/or transact any other lawful business of the Board. Additional meetings may be held at the request of the Chairman of the Board. Suitable quarters for the use of the Board of Plumbing Examiners shall be provided.

1. Administration - The Board of Examiners shall receive applications and they shall approve or deny licenses as described herein based on Sections 111.7, 111.8, 111.9, 111.10 and 111.11.
2. Test - The Board of Examiners shall prescribe the administration, form and content of tests for Master Plumbers, Master Drainlayers, Journeyman Plumbers and the form and content of licenses as described herein. The Board shall also determine the passing grade for each test.
3. Notice - All complaints by citizens concerning plumbing or drainlaying procedures or rules and regulations shall be made to the Board of Examiners in writing. After a thorough investigation, the Board shall respond in writing to each complaint.
4. Adoption of Rules - The Board of Examiners shall adopt rules and regulations, when and as required at the discretion of the Board, consistent with the provisions of this ordinance and the laws of the City of Saint Louis, related to the Board's powers and duties as herein stated. Such rules and regulations adopted by the Board shall be posted in the Section of Plumbing Regulations and Inspections for two weeks prior to becoming effective.
5. Inspection - The Board of Examiners shall order the inspection of any plumbing or drain system whenever deemed necessary for the public safety.

6. Revocation/Suspension of Licenses - After investigation and hearings in accordance with Section 111.12, the Board may revoke or suspend any license that it has issued.
7. Review Committee - The Board of Examiners shall appoint two members of the Plumbing Section and/or Health Division to interview individuals applying for licensing, as to their qualifications and experience. Each recommendation of the Review Committee shall be presented to the Board of Examiners. The Board of Examiners may request to review all qualifications.

111.4 Secretary of the board, duties.

The code official or his duly appointed representative shall act as Secretary to the Board of Examiners. The Secretary of the Board shall be nonvoting. It shall be the duty of the Secretary to:

1. keep full and complete records of the proceedings of said Board;
2. keep a file of the name, residence and place of business of every licensed person engaged in or working at the business of plumbing and drainlaying in the City of Saint Louis (these records shall be updated within ninety days of the renewal period stated in Section 111.5);
3. give all applicants for examination a written notice of the date and place of examination. The Secretary shall give the applicant an informational letter on examination procedures with an outline of suggested study for the examination applied for; and
4. return all incomplete applications to the applicants.

All records shall be open to supervised public inspection during normal working hours, subject to staff availability. Test questions and answers shall not be open to the public.

111.5 Renewal date for licenses.

The renewal of all licenses for Master Plumbers, Master Drainlayers and Journeyman Plumbers shall be due on December 31, 2006, and every three (3) years thereafter. Licenses shall be renewed within a grace period of thirty (30) days prior to or thirty (30) days following the renewal date. Following the grace period, any Master Plumber, Master Drainlayer or Journeyman Plumber that has not renewed his license, at the discretion of the Board of Examiners, shall be required to re-apply and be re-tested in order to obtain a new license.

111.5.1 Licenses obtained between renewal dates. Any new license issued more than thirty days prior to the renewal date shall expire on the renewal date. There shall be no prorating of license fees.

111.5.2 Failure of master plumber or master drainlayer to renew. The failure of any Master Plumber or Master Drainlayer to renew their license during the grace period shall terminate their license, and no permit for doing work under this or any other ordinance of the City of Saint Louis shall be issued them until after they have obtained a new license following re-application and re-testing (if necessary), and they shall be disqualified from carrying on any work authorized to be done under any permit theretofore issued to them or any job unfinished at the date of termination of their license.

111.5.3 Inactive license. Upon written application to the Plumbing Inspection Supervisor, a master plumber or master drainlayer shall be allowed to make his license inactive. If approved, the Plumbing Inspection Supervisor will approve the written application and return it to the license holder. It shall be the license holder's responsibility to keep this document and present it to the Section of Plumbing Regulation and Inspection if the license is to be re-activated. In order to keep an inactive license as a Master Plumber, the license holder must maintain an active license as a Journeyman Plumber.

111.6 Fees.

Fees for applications, testing and licensing shall be as established in Table 111.6.

**TABLE 111.6
APPLICATION, TESTING AND LICENSING FEES**

Item	Fee	Duration	Section	Remarks and Requirements
Board of Plumbing Examiners Licenses:				
Application Fee (all classes)	\$50.00			To cover cost of application only
Journeyman	50.00	3 years	111.10	To cover cost of licensing
Master Drainlayer	300.00	3 years	111.9	To cover cost of licensing
Master Plumber	300.00	3 years	111.8	To cover cost of licensing
Master Plumber/Drainlayer	600.00	3 years	111.8 & .9	To cover cost of licensing
Registration Fee (Apprentice)	25.00	5 years	111.7	To cover cost of registration
Replacement of lost license	25.00			To cover cost of replacement license

Testing

Home owners examination	25.00	2 years	111.11	To cover cost of application & examination
All other tests administered by the City of Saint Louis	50.00			To cover cost of examination only

Board of Sprinkler Contractors & Sprinkler Fitters Licenses:

Application Fee (all classes)	50.00			To cover cost of application only
Sprinkler Contractor	300.00	3 years	112.7	To cover cost of licensing
Sprinkler Fitter	50.00	3 years	112.8	To cover cost of licensing
Registration Fee (Apprentice)	25.00	5 years	112.9	To cover cost of registration
Replacement of lost license	25.00			To cover cost of replacement license

Backflow Tester

Mechanical Contractor	300.00	3 years	113.4	To cover cost of application & licensing
Journeyman Pipefitter	50.00	3 years	113.4	To cover cost of application & licensing
Replacement of lost license	25.00			To cover cost of replacement license

111.7 License as a master plumber.

An applicant shall successfully complete all of the following requirements in order to receive a license as a master plumber:

1. Applicant shall be at least twenty-one (21) years of age.
2. Applicant shall complete application provided by the Section of Plumbing Regulations and Inspections and pay the application fee shown in Table 111.6.
3. Applicant shall have served a five (5) year apprenticeship and have five (5) years' experience as a licensed journeyman plumber or the applicant shall have ten (10) years' experience as a licensed journeyman plumber. Equivalent training and experience shall also be considered. Equivalent training and experience shall mean a degree in engineering from an accredited university in which the applicant shall have received at least nine (9) semester hours training in plumbing design, planning and installation of plumbing and sewer systems, house drainage and ventilation, and has had three (3) years of experience in the design, planning and installation of plumbing systems, house drainage and venting and must be a licensed professional engineer licensed to practice in the State of Missouri.
4. Applicant shall be interviewed by the Review Committee of the Board of Examiners as to qualifications and experience. The applicant shall provide proof of knowledge, training and experience through transcripts from educational institutions, apprenticeship agreements, reference letters from employers and other documents as requested by the Review Committee or by the Board of Examiners.
5. Applicant's qualifications shall be presented to the Board of Examiners for approval to take the written examination.
6. Approved applicant shall be notified by the Secretary of the Board as to the date and place of the written examination. The Secretary shall also give the applicant an informational letter on the examination procedures with an outline of suggested study for the examination. The applicant is responsible for all testing fees.
7. Applicant shall successfully complete the written examination and receive a passing grade on all parts of the examination.
8. Applicant shall be notified in writing by the Secretary of the Board of the examination results. Applicants that pass shall be notified to come to the Section of Plumbing Regulations and Inspection and obtain their license within ninety (90) days. Applicants that have not passed the examination for the first time shall be notified that they may re-take the examination after six (6) months. Applicants that have failed the examination twice within the last twelve (12) months shall be notified that they shall wait a minimum of twelve (12) months before re-application and re-testing.
9. Successful applicant shall bring a 3/4" by 3/4" color photograph, a certificate of liability insurance for bodily injury and property damage in the amount of at least one million dollars (\$1,000,000) naming the applicant as an additionally insured, and the license fee required by Table 111.6 to the Section of Plumbing Regulations and Inspections in order to be issued a license as a master plumber.

No Journeyman Plumber shall be allowed to hold a Master Plumber's license. When a Journeyman Plumber qualifies as a Master Plumber, the Journeyman must relinquish the Journeyman Plumber's license to the Board of Plumbing Examiners before a Master Plumber license can be issued.

111.8 License as a Master Drainlayer.

An applicant shall successfully complete all of the following requirements in order to receive a license as a Master Drainlayer:

1. Applicant shall be at least twenty-one (21) years of age.
2. Applicant shall complete application provided by the Section of Plumbing Regulations and Inspections and pay the application fee shown in Table 111.6.
3. Applicant shall have worked a minimum of four (4) years in the business of drainlaying and have a thorough knowledge in the planning, design, supervision and installation of public and private sewers. Equivalent training and experience shall also be considered. Equivalent training and experience shall mean a degree in engineering from an accredited university in which the applicant shall have received at least nine (9) semester hours training in plumbing design, planning and installation of plumbing and sewer systems, house drainage and ventilation, and has had three (3) years of experience in the design, planning and installation of plumbing systems, house drainage and venting and must be a licensed professional engineer licensed to practice in the State of Missouri.
4. Applicant shall be interviewed by the Review Committee of the Board of Examiners as to qualifications and experience. The applicant shall provide proof of knowledge, training and experience through transcripts from educational institutions, apprenticeship agreements, reference letters from employers and other documents as requested by the Review Committee or by the Board of Examiners.
5. Applicant's qualifications shall be presented to the Board of Examiners for approval to take the written examination.
6. Approved applicant shall be notified by the Secretary of the Board as to the date and place of the written examination. The Secretary shall also give the applicant an informational letter on the examination procedures with an outline of suggested study for the examination. The applicant is responsible for all testing fees.
7. Applicant shall successfully complete the written examination and receive a passing grade on all parts of the examination.
8. Applicant shall be notified in writing by the Secretary of the Board of the examination results. Applicants that pass shall be notified to come to the Section of Plumbing Regulations and Inspection and obtain their license within ninety (90) days. Applicants that have not passed the examination for the first time shall be notified that they may re-take the examination after six (6) months. Applicants that have failed the examination twice within the last twelve (12) months shall be notified that they shall wait a minimum of twelve (12) months before re-application and re-testing.
9. Successful applicant shall bring a 3/4" by 3/4" color photograph, a certificate of liability insurance for bodily injury and property damage in the amount of at least one million dollars (\$1,000,000) naming the applicant as an additionally insured, and the license fee required by Table 111.6 to the Section of Plumbing Regulations and Inspections in order to be issued a license as a Master Drainlayer.

111.9 License as a Journeyman Plumber.

An applicant shall successfully complete all of the following requirements in order to receive a license as a Journeyman Plumber:

1. Applicant shall be at least twenty-one (21) years of age.
2. Applicant shall complete application provided by the Section of Plumbing Regulations and Inspections and pay the application fee shown in Table 111.6.
3. Applicant shall have a minimum of five (5) years experience as an apprentice in the installation of plumbing and drainage systems under the direct personal and immediate supervision of a certified Journeyman or Master Plumber in the City of St. Louis, or have a license issued by another licensing authority in another jurisdiction, or equivalent training and experience prior to the date of the examination. Equivalent training and experience shall also be considered. Equivalent training and experience shall mean the satisfactory completion of a one thousand eighty hour (1,080) course in practical plumbing, house drainage and plumbing ventilation at a trade or technical school. The applicant shall receive a one (1) year credit toward their five (5) year apprenticeship training when presenting a certificate of completion from a trade or technical school recognized by the Board of Examiners. Any applicant living within fifty (50) miles of the limits of the City of Saint Louis during the applicant's apprenticeship must have held a valid City of Saint Louis apprentice plumber registration for a minimum of four (4) years.
4. Applicant shall be interviewed by the Review Committee of the Board of Examiners as to qualifications and experience. The applicant shall provide proof of knowledge, training and experience through transcripts from educational institutions, apprenticeship agreements, reference letters from employers and other documents as requested by the Review Committee or by the Board of Examiners.
5. Applicant's qualifications shall be presented to the Board of Examiners for approval to take the written examination.

6. Approved applicant shall be notified by the Secretary of the Board as to the date and place of the written examination. The Secretary shall also give the applicant an informational letter on the examination procedures with an outline of suggested study for the examination. The applicant is responsible for all testing fees.
7. Applicant shall successfully complete the written examination and receive a passing grade on all parts of the examination.
8. Applicant shall be notified in writing by the Secretary of the Board of the examination results. Applicants that pass shall be notified to come to the Section of Plumbing Regulations and Inspection and obtain their license within ninety (90) days. Applicants that have not passed the examination for the first time shall be notified that they may re-take the examination after six (6) months. Applicants that have failed the examination twice within the last twelve (12) months shall be notified that they shall wait a minimum of twelve (12) months before re-application and re-testing.
9. Successful applicant shall bring a 3/4" by 3/4" color photograph and the license fee required in Table 111.6 to the Section of Plumbing Regulations and Inspections in order to be issued a license as a journeyman plumber.

111.10 Registration as an Apprentice Plumber.

Every applicant learning the business or trade of plumbing within the City of Saint Louis, shall be registered by the Board of Plumbing Examiners and shall receive a registration from the Board of Examiners with "Apprentice" plainly marked on it, their name and the date issued. The registration fee for an Apprentice shall be as prescribed in Table 111.6 and the registration will be issued for a five (5) year period.

An Apprentice who is undergoing an apprenticeship or course of training for the purpose of learning the trade of plumbing shall perform no work regulated by this code or its amendments thereto, except as an assistant, under the direct personal and immediate supervision of a plumber certified under the terms and provisions of this code.

The Apprentice Registration shall not be renewed. Upon written application, the Apprentice shall be allowed to be extended his registration for a maximum of six (6) months if the Apprentice has been approved to take the Journeyman Plumber examination as prescribed in Section 111.9. It shall be mandatory for an Apprentice Plumber, on the completion of their five (5) year training period, to make application for the Journeyman Plumber's examination.

111.10.1 Apprentices shall, during the first month of each year after registration, report their training and employment status to the Board. Such report shall be on a form provided by the Board, and shall list for the past year, employers, and period of time worked.

NOTE: Failure to report this required information to the Board of Examiners may cause the registration to be cancelled.

111.10.2 Any Master Plumber employing an Apprentice shall advise the Board in writing immediately upon the commencement or termination of the apprentice's employment. In addition, by the last work day of January of each year, the Master Plumber shall provide to the Board a list of each Apprentice in their employ as of December 31st of the prior year.

111.10.3 The total number of Apprentices employed by a Master Plumber at any given time shall not exceed the total number of licensed Journeymen employed at that time plus one (1) additional Apprentice for each active Master Plumber.

111.11 Certification for homeowner's permit.

A homeowner that is found qualified by the Board of Examiners shall be allowed to do plumbing work on an owner-occupied single family dwelling under the following conditions:

1. The homeowner shall reside in the one-family dwelling and present proof of ownership to the Board of Examiners;
2. Such plumbing work shall be done by the homeowner and used exclusively by the homeowner and the homeowner's family;
3. Homeowners making plumbing repairs on a one-family dwelling for rental or sale purposes are in violation of this section.
4. The applicant shall complete application provided by the Section of Plumbing Regulations and Inspections and pay the application fee shown in Table 111.6.
5. The Board of Examiners shall allow the homeowner to take the homeowner examination. If the homeowner fails to qualify by obtaining a passing score, the homeowner shall not be permitted to take the examination again for one year and any plumbing work shall be done by licensed individuals during that time.
6. If the homeowner qualifies, the Board of Examiners shall certify the homeowner to work on the specified owner-occupied one family dwelling. This certification shall be valid for two (2) years only at the address listed on the

application.

7. The homeowner with this certification shall be allowed to obtain one permit at a time for up to four (4) plumbing fixtures. Only one permit for a homeowner shall be open at any time. Plumbing permits for homeowners shall not be extended beyond six (6) months. Any open permit shall be revoked when the homeowner's certification expires. The homeowner shall not be permitted to do work outside of the building.
8. After the homeowner's certification has expired, the homeowner may re-apply and re-test for a new certification.

111.12 Powers of the Board to suspend or revoke licenses.

Upon receipt of a written complaint to the Board filed by the code official, or the Building Commissioner or any aggrieved person, or upon the Board's own motion, the Board shall make an investigation into the complaint which it may deem necessary and thereafter shall conduct a hearing upon such complaint.

111.12.1 Reasons for suspension or revocation of licenses. The following offenses shall be cause for a hearing on a master plumber's, master drainlayer's or journeyman plumber's license:

1. If the license holder has obtained same by fraud or misrepresentation, that license shall be immediately revoked;
2. The license holder has intentionally violated any of the provisions of this section or any other portion of this code;
3. The license holder is found to be negligent, unskilled, and unfaithful in their work or found to be unfit, incompetent or untrustworthy in the work of plumbing or drainlaying.
4. The license holder has been convicted of a crime or of violating an ordinance involving moral turpitude;
5. The licensed master plumber has intentionally employed an unlicensed person to perform plumbing work covered by this code;
6. The licensed master plumber has directed apprentices to work without the supervision of a licensed journeyman or licensed master plumber;
7. The licensed master plumber or licensed master drainlayer has obtained permits for individuals who are not in their employ and under their supervision;
8. The licensed master plumber or licensed master drainlayer has allowed anyone to enter an excavation that has not been properly shored.

111.12.2 Notice of hearing. Except for a good cause shown, within seventy-five (75) days after the filing of a written complaint at a Board meeting, a notice of hearing shall be sent to the license holder. The notice shall be served to the last known address by certified mail, return receipt requested, at least fifteen (15) calendar days prior to any scheduled hearing and shall include:

1. A statement of the time, place and nature of the hearing;
2. A reference to the particular section(s) of the code and rules involved;
3. A short, plain statement of the complaint and a statement of the issues before the Board;
4. A statement that the nature of the proceeding before the Board will be an informal inquiry into the complaint, at which time an opportunity will be afforded the individual or contractor to respond to the allegations in the complaint by his/her testimony, the testimony of witnesses, or by documentary evidence;
5. A statement that the individual or contractor has a right to be represented by legal counsel; and
6. A statement that, based upon the evidence presented at the hearing, the Board may suspend or revoke the homeowner's, apprentice's, journeyman's or master's license.

111.12.3 Determining vote. A decision to suspend or revoke a journeyman's or master's license shall require the concurring vote of at least three (3) of the four (4) members of the Board.

111.12.4 Decisions of the Board are final unless appealed. All rulings or decisions of the Board of Examiners shall become final and binding upon all parties thereto unless appealed to the Board of Building Appeals as provided for in the Building Code.

111.12.5 Enforcement stayed. If the decision of the Board of Examiners is appealed to the Board of Building Appeals, enforcement of any ruling or decision by the Board shall be stayed until the Board of Building Appeals has rendered its decision.

111.13 Hardship Clause.

In the event of a loss of a Master Licensee to a company employing tradesmen licensed in the City of Saint Louis, through no fault of that company, a licensed Journeyman of the trade of the absent Master Licensee; or in the event of the loss of a Master Drainlayer to a company through no fault of that company, a person who would otherwise be eligible to qualify as a Master Drainlayer in the trade of the absent Master Drainlayer; and who shall be a full time employee of that company, shall be designated as an Interim Master after meeting all bonding and insurance requirements. That company may operate under an Interim Master, who will have the same rights, responsibilities and standing of a Master in that trade, for a period of not more than one (1) year from the date of the hardship. The Code Official shall determine judgment of fault.

Disagreement of judgment may be appealed to the Board of Examiners who shall hold an emergency hearing no later than fourteen (14) calendar days following the date the appeal is received by the Board Secretary. The decision of the Board involving a hardship clause is appealable in the same manner as other decisions of the Board. Additional appeals may be made pursuant to the procedures in Section 110 of this Code.

112.0 BOARD OF EXAMINERS FOR SPRINKLER SYSTEM CONTRACTORS

112.1 How constituted.

The Mayor, with the approval of the Board of Aldermen, shall appoint one (1) licensed employing sprinkler contractor, one (1) licensed professional engineer with experience in fire suppression sprinkler system design and one (1) licensed journeyman sprinkler fitter. Each of whom shall be a resident of the City of St. Louis, each of whom shall be a United States citizen, and each of whom shall have been actively engaged at the trade or business of sprinkler systems for five (5) years in the Saint Louis metropolitan area. These three members, together with the Fire Marshal or the Fire Marshal's appointed representative, and the Building Commissioner or the Building Commissioner's appointed representative, shall constitute the Board of Examiners.

112.2 Term of office, compensation.

The members of the Board of Examiners, except the Fire Marshal or the Fire Marshal's appointed representative, and the Building Commissioner or the Building Commissioner's duly appointed representative, shall hold office for a term of four (4) years or until their successors are duly qualified, unless removed by the Mayor. They shall, except for the Fire Marshal or the Fire Marshal's appointed representative, receive compensation for their services, as provided by separate ordinance on a per-meeting basis.

112.3 Meetings.

Three (3) members of the Board in attendance shall constitute a quorum. An affirmative vote of three (3) board members is necessary for the approval of any motion. The Board shall elect one of its members to be the chairman. Suitable quarters for the use of the Board of Examiners shall be provided by the Building Division.

112.4 Powers and duties of the Board of Examiners.

It shall be the duty of the Board of Examiners to meet as often as necessary to: hear and determine any charges or complaints which may be lawfully made against any licensed sprinkler contractor or licensed journeyman sprinkler fitter; approve apprentice applications; and transact any other lawful business of the Board. Meetings may be held at the request of the chairman of the board. Suitable quarters for the use of the Board of Examiners shall be provided.

1. Administration – The Board of Examiners shall receive applications and after review they shall approve or deny them based on Sections 112.8, 112.9 and 112.10.
2. Test – The Board of Examiners shall prescribe the administration, form and content of tests for journeyman sprinkler fitters and sprinkler fitter contractors and the form and content of licenses as described herein. The Board of Examiners shall also determine the passing grade for each test.
3. Complaints – All complaints by citizens concerning sprinkler fitting procedures or rules and regulations shall be made to the Board of Examiners in writing. After a thorough investigation, the Board shall respond in writing to each complaint.
4. Adoption of Rules – The Board of Examiners shall adopt rules and regulations, when and as required at the discretion of the Board, consistent with the provisions of this ordinance and the laws of the City of Saint Louis, related to the Board's powers and duties as herein stated. Such rules and regulations adopted by the Board shall be posted in the Section of Plumbing Regulations and Inspections for two weeks prior to becoming effective.
5. Inspection – The Board of Examiners shall order the inspection of any sprinkler system whenever deemed necessary for the public safety.
6. Revocation/Suspension of Licenses – After investigation and hearings in accordance with Section 112.11, the Board may revoke or suspend any license that it has issued.

112.5 Secretary of the board, duties.

The code official or his duly appointed representative shall act as Secretary to the Board of Examiners. The Secretary of the Board shall be nonvoting. It shall be the duty of the Secretary to:

1. keep full and complete records of the proceedings of said Board;
2. keep a file of the name, residence and place of business of every licensed person engaged in or working at the business of sprinkler fitting in the City of Saint Louis (these records shall be updated within ninety days of the renewal period stated in Section 112.6);
3. give all applicants for examination a written notice of the date and place of examination. The Secretary shall give the applicant an informational letter on examination procedures with an outline of suggested study for the examination applied for; and
4. return all incomplete applications to the applicants.

All records shall be open to supervised public inspection during normal working hours, subject to staff availability. Test questions and answers shall not be open to the public.

112.6 Renewal date for licenses.

The renewal of all licenses for sprinkler contractors and journeyman sprinkler fitters shall be due on December 31, 2006, and every three (3) years thereafter. Licenses shall be renewed within a grace period of thirty days prior to or following the renewal date. Following the grace period, any Sprinkler Contractor or Journeyman Sprinkler Fitter who has not renewed his license, at the discretion of the Board of Examiners, shall be required to re-apply and be re-tested in order to obtain a new license.

112.6.1 Licenses obtained between renewal dates. Any new license issued more than thirty (30) days prior to the renewal date shall expire on the renewal date. There shall be no prorating of license fees.

112.6.2 Failure of Sprinkler Contractor to renew. The failure of any Sprinkler Contractor to renew their license during the grace period shall terminate their license, and no permit for doing work under this or any other ordinance of the City of Saint Louis shall be issued them until after they have obtained a new license following re-application and re-testing (if necessary), and they shall be disqualified from carrying on any work authorized to be done under any permit theretofore issued to them or any job unfinished at the date of termination of their license.

112.7 Inactive license.

Upon written application to the Plumbing Inspection Supervisor, a sprinkler contractor shall be allowed to make his license inactive. If approved, the Plumbing Inspection Supervisor will approve the written application and return it to the license holder. It shall be the license holder's responsibility to keep this document and present it to the Section of Plumbing Regulation and Inspection when the license is to be re-activated. The license holder must maintain an active Journeyman Sprinkler Fitter license.

112.8 License as a Sprinkler Contractor.

An applicant shall successfully complete all of the following requirements in order to receive a license as a Sprinkler Contractor:

1. Applicant shall be at least twenty-one (21) years of age.
2. Applicant shall complete application provided by the Section of Plumbing Regulations and Inspections and pay the application fee shown in Table 111.6.
3. Applicant shall have served a five (5) year apprenticeship and have five (5) years' experience as a licensed Sprinkler Fitter or the applicant shall have ten (10) years' experience as a licensed Sprinkler Fitter. (Five years of experience consists of a minimum of 8,500 working hours with a maximum of 1,700 working hours considered for any one year.) Equivalent training and experience shall also be considered. Equivalent training and experience shall mean a degree in engineering from an accredited university in which the applicant shall have received training in the design of sprinkler system design, planning and installation of same, and has had three (3) years of experience in the design, planning and installation of sprinkler systems, and must be a licensed professional engineer licensed to practice in the State of Missouri.
4. Applicant's credentials shall be reviewed by the Board of Examiners as to qualifications and experience. The applicant shall provide proof of knowledge, training and experience through transcripts from educational institutions, apprenticeship agreements, reference letters from employers and other documents as requested by the Board of Examiners.
5. The Secretary of the Board shall arrange a testing date with the approved applicant. The Secretary shall also give the applicant an informational letter on the examination procedures with an outline of suggested study for the examination. The applicant shall schedule the test within ninety (90) days of approval. The applicant is responsible for all testing fees.
6. Applicant shall successfully complete the written examination and receive a passing grade on all parts of the

examination.

7. Applicant shall be notified in writing by the Secretary of the Board of the examination results. Applicants that pass shall be notified to come to the Section of Plumbing Regulations and Inspection and obtain their license. Applicants that have failed the examination for the first time shall be notified that they may schedule a re-take of the examination after ninety (90) days. Applicants that have failed the examination for a second time shall be notified that they may schedule a re-take of the examination after an additional one hundred eighty (180) days. Applicants that have failed the examination for a third time shall wait a minimum of twelve (12) months before re-application and re-testing. The applicant is responsible for all application and testing fees.
8. Successful applicant shall bring a 3/4" by 3/4" color photograph, a certificate of liability insurance for bodily injury and property damage in the amount of at least one million dollars (\$1,000,000) naming the applicant as an additionally insured, and the license fee required by Table 111.6 to the Section of Plumbing Regulations and Inspections in order to be issued a license as a Sprinkler Contractor.

No Journeyman Sprinkler Fitter shall be allowed to hold a Sprinkler Contractor license. When a Journeyman Sprinkler Fitter qualifies as a Sprinkler Contractor, the Journeyman must relinquish the Journeyman Sprinkler Fitter's license to the Board of Plumbing Examiners before a Sprinkler Contractor's license can be issued.

112.9 License as a Journeyman Sprinkler Fitter.

An applicant shall successfully complete all of the following requirements in order to receive a license as a Journeyman Sprinkler Fitter:

1. Applicant shall be at least twenty-one (21) years of age.
2. Applicant shall complete application provided by the Section of Plumbing Regulations and Inspections and pay the application fee shown in Table 111.6.
3. Applicant shall have a minimum of five (5) years experience as an apprentice in the installation of sprinkler systems under the direct personal and immediate supervision of a licensed journeyman sprinkler fitter or licensed sprinkler contractor in the City of St. Louis, or have a license issued by another licensing authority in another jurisdiction, or equivalent training and experience prior to the date of the examination. (Five years of experience consists of a minimum of 8,500 hours with a maximum of 1,700 working hours considered for any one year.) The applicant shall receive a one (1) year credit toward their five (5) year apprenticeship training when presenting a certificate of completion from a trade or technical school recognized by the Board of Examiners. Any applicant living within one hundred (100) miles of the limits of the City of Saint Louis must have held a valid apprentice sprinkler fitter registration for five (5) years.
4. The applicant shall provide proof of knowledge, training and experience through transcripts from educational institutions, apprenticeship agreements, letters of reference from employers and any other documents requested by the Board of Examiners.
5. Applicant's qualifications shall be reviewed by the Board of Examiners for approval to take the written examination.
6. The Secretary of the Board shall arrange a testing date with the applicant. The Secretary shall also give the applicant an informational letter on the examination procedures with an outline of suggested study for the examination. The applicant shall schedule the test within ninety (90) days of approval. The applicant is responsible for all testing fees.
7. Applicant shall successfully complete the written examination and receive a passing grade on all parts of the examination.
8. Applicant shall be notified in writing by the Secretary of the Board of the examination results. Applicants that pass shall be notified to come to the Section of Plumbing Regulations and Inspection and obtain their license. Applicants that have failed the examination for the first time shall be notified that they may schedule a re-take of the examination after ninety (90) days. Applicants that have failed the examination for a second time shall be notified that they may schedule a re-take of the examination after an additional one hundred eighty (180) days. Applicants that have failed the examination for a third time shall wait a minimum of twelve (12) months before re-application and re-testing. The applicant is responsible for all application and testing fees.
9. Successful applicant shall bring a 3/4" by 3/4" color photograph and the license fee required in Table 111.6 to the Section of Plumbing Regulations and Inspections in order to be issued a license as a Journeyman Sprinkler Fitter.

112.10 Registration as an Apprentice Sprinkler Fitter.

Every applicant learning the business or trade of sprinkler fitting within the City of Saint Louis, shall be registered by the Board of Examiners and shall receive a registration from the Board of Examiners with "Apprentice" plainly marked on it, their name and the

date issued. The registration fee for an Apprentice shall be as prescribed in Table 111.6 and the registration will be issued for a five (5) year period.

The Apprentice's employer shall furnish a notarized letter to the Board of Examiners naming all Journeyman Sprinkler Fitters and all Apprentice Sprinkler Fitters in their employment. The Sprinkler Contractor shall employ at least one licensed Journeyman Sprinkler Fitter for each Apprentice Sprinkler Fitter.

An Apprentice who is undergoing an apprenticeship or course of training for the purpose of learning the trade of sprinkler fitting shall perform no work regulated by this code or its amendments thereto, except as an assistant, under the direct personal and immediate supervision of a Sprinkler Fitter or Sprinkler Contractor licensed under the terms and provisions of this code.

The Apprentice Registration shall not be renewed. Upon written application, the apprentice shall be allowed to be extended his registration for a maximum of six (6) months if the apprentice has been approved to take the journeyman sprinkler fitter examination as prescribed in Section 112.8. It shall be mandatory for an Apprentice Sprinkler Fitter, on the completion of their five (5) year training period, to make application for the Journeyman Sprinkler Fitter's examination.

112.11 Powers of the Board to suspend or revoke licenses.

Upon receipt of a written complaint to the Board filed by the Building Commissioner or any aggrieved person, or upon the Board's own motion, the Board shall make an investigation into the complaint which it may deem necessary and thereafter shall conduct a hearing upon such complaint.

112.11.1 Reasons for suspension or revocation of licenses. The following offenses shall be cause for a hearing on a Sprinkler Contractor's or Journeyman Sprinkler Fitter's license:

1. If the license holder has obtained same by fraud or misrepresentation, that license shall be immediately revoked;
2. The license holder has intentionally violated any of the provisions of this section or any other portion of this code or the fire code;
3. The license holder is found to be negligent, unskilled and unfaithful in their work or found to be unfit, incompetent or untrustworthy in the work of sprinkler fitting;
4. The license holder has been convicted of a crime or of violating an ordinance involving moral turpitude;
5. The licensed Sprinkler Contractor has intentionally employed an unlicensed person to perform sprinkler fitting work covered by this code;
6. The licensed Sprinkler Contractor has directed Apprentices to work without the supervision of a licensed Journeyman Sprinkler Fitter.
7. The licensed Sprinkler Contractor has obtained permits for individuals who are not in their employ and under their supervision.

112.11.2 Notice of hearing. Within seventy-five (75) calendar days after the filing of a written complaint at the Board meeting, a notice of hearing shall be sent to the license holder. The notice shall be served to the last known address by certified mail, return receipt requested, at least fifteen (15) days prior to any scheduled hearing and shall include:

1. A statement of the time, place and nature of the hearing;
2. A reference to the particular section(s) of the code and rules involved;
3. A short, plain statement of the complaint and a statement of the issues before the Board;
4. A statement that the nature of the proceeding before the Board will be an informal inquiry into the complaint, at which time an opportunity will be afforded the individual or contractor to respond to the allegations in the complaint by their testimony, the testimony of witnesses, or by documentary evidence;
5. A statement that the journeyman sprinkler fitter or sprinkler contractor has a right to be represented by legal counsel; and
6. A statement that, based upon the evidence presented at the hearing, the Board may suspend or revoke the apprentice's, journeyman sprinkler fitter's or sprinkler contractor's license.

112.11.3 Determining vote. A decision to suspend or revoke an Apprentice's, a Journeyman Sprinkler Fitter's or a Sprinkler Contractor's license shall require the concurring vote of at least three (3) members of the Board.

112.11.4 Decisions of the Board are final unless appealed. All rulings or decisions of the Board of Examiners shall become final and binding upon all parties thereto unless appealed to the Board of Building Appeals as provided for in the Building Code.

112.11.5 Enforcement stayed. If the decision of the Board of Examiners is appealed to the Board of Building Appeals, enforcement of any ruling or decision by the Board shall be stayed until the Board of Building Appeals has rendered its decision.

112.12 Hardship Clause.

In the event of a loss of a Master Licensee to a company employing tradesmen licensed in the City of Saint Louis, through no fault of that company, a licensed Journeyman of the trade of the absent Master Licensee and who shall be a full time employee of that company, shall be designated as an Interim Master after meeting all bonding and insurance requirements. That company may operate under an Interim Master, who will have the same rights, responsibilities and standing of a Master in that trade, for a period of not more than one (1) year from the date of the hardship. The Code Official shall determine judgment of fault.

Disagreement of judgment may be appealed to the Board of Examiners who shall hold an emergency hearing no later than fourteen (14) calendar days following the date the appeal is received by the Board Secretary. The decision of the Board involving a hardship clause is appealable in the same manner as other decisions of the Board. Additional appeals may be made pursuant to the procedures in Section 110 of this Code.

113.0 COMMITTEE OF PLUMBING REVIEW

113.1 How constituted.

The Mayor, with the approval of the Board of Aldermen, shall appoint one (1) licensed architect, one (1) licensed professional engineer with experience in plumbing system design, one (1) licensed master plumber, one (1) licensed master drainlayer, one (1) licensed journeyman plumber and one (1) member at large. Each of whom shall be a resident of the City of St. Louis, each of whom shall be a United States citizen, and each of whom shall have been actively engaged at the trade or business of plumbing systems for five (5) years in the Saint Louis metropolitan area, except for the member at large. These six members, together with the Plumbing Supervisor or the Plumbing Supervisor's appointed representative, shall constitute the Committee of Plumbing Review.

113.2 Term of office, compensation.

The members of the Committee of Plumbing Review, except the Plumbing Supervisor or the Plumbing Supervisor's duly appointed representative, shall hold office for a term of four (4) years or until their successors are duly qualified, unless removed by the Mayor. They shall, except for the Plumbing Supervisor or the Plumbing Supervisor's duly appointed representative, receive compensation for their services, as provided by separate ordinance on a per-meeting basis.

113.3 Meetings.

Four (4) members of the Committee in attendance shall constitute a quorum. A majority vote of the board members is necessary for the approval of any motion. The Committee shall elect one of its members to be the chairman. The Plumbing Supervisor or the Plumbing Supervisor's duly appointed representative shall be the Committee's secretary. Suitable quarters for the use of the Committee of Plumbing Review shall be provided by the Building Division. The Committee shall meet a minimum of three (3) times per year. Additional meetings may be called at the request of any Committee member.

113.4 Powers and duties of the Committee of Plumbing Review.

It shall be the duty of the Committee of Plumbing Review to consider all proposed changes in this code relative to the use, adoption or incorporation of any plumbing materials, or the method of construction or installation of plumbing when referred to the Committee by the code official. The Committee shall consider any petition for the adoption or incorporation of any plumbing materials or methods of construction or installation of plumbing referred to the Committee by the Building Commissioner. The Committee shall accept research, approval, investigations and report reviews when referred by the code official for assistance.

113.5 Secretary of the board, duties.

It shall be the duty of the Secretary to:

1. Prepare and distribute the agenda to all Committee members for all upcoming meetings; and
2. Keep full and complete records of the proceedings of said Committee;

All records shall be open to supervised public inspection during normal working hours, subject to staff availability.

114.0 BACKFLOW CERTIFICATION

114.1 General.

The installation and annual testing of backflow prevention devices shall be performed only by individuals that have been licensed for this specific work by the Section of Plumbing Regulations and Inspections.

114.2 Master Plumbers and Journeyman Plumbers.

A licensed Plumbing Contractor shall have a licensed Master Plumber or licensed Journeyman Plumber in possession of a valid Missouri Department of Natural Resources Public Drinking Water Certification for Backflow Prevention Assembly Tester Rule

10CSR60-11.010 to install and/or test backflow prevention devices on any installation other than dedicated fire sprinkler and suppression systems that require a licensed Sprinkler Contractor to install and test.

114.2.1 Validation of Master Plumber or Journeyman Plumber licenses. Upon application for or renewal of a Master Plumber or Journeyman Plumber license, the Master Plumber or Journeyman Plumber shall present proof of a valid Missouri Department of Natural Resources Public Drinking Water Certification for Backflow Prevention Assembly Tester Rule 10CSR60-11.010 certification to the Plumbing Section and the Master Plumber or Journeyman Plumber license will be notated as complying with Section 114.2.

114.3 Sprinkler Contractors and Journeyman Sprinkler Fitters.

A licensed Sprinkler Contractor employing a licensed Journeyman Sprinkler Fitter in possession of a valid Missouri Department of Natural Resources Public Drinking Water Certification for Backflow Prevention Assembly Tester Rule 10CSR60-11.010 may install and/or test backflow prevention devices on any sprinkler system installation. The licensed Sprinkler Contractor is authorized to perform work on any sprinkler system up to and including the backflow device and the branch pipe in which the backflow device is installed. If the sprinkler system originates from a separate water main tap, the licensed Sprinkler Contractor may work on the line up to but not including the tap.

114.3.1 Validation of Journeyman Sprinkler Fitter licenses. Upon application for or renewal of a Journeyman Sprinkler Fitter license, the Journeyman Sprinkler Fitter shall present proof of a valid Missouri Department of Natural Resources Public Drinking Water Certification for Backflow Prevention Assembly Tester Rule 10CSR60-11.010 certification to the Plumbing Section and the Journeyman Sprinkler Fitter license will be notated as complying with Section 114.3.

114.4 Mechanical Contractors and Journeyman Pipefitters.

A Mechanical Contractor employing a licensed Journeyman Pipefitter in possession of a valid Missouri Department of Natural Resources Public Drinking Water Certification for Backflow Prevention Assembly Tester Rule 10CSR60-11.010 may use that employee to install and/or test backflow prevention devices on any mechanical system installation. The licensed Journeyman Pipefitter employed by the Mechanical Contractor is authorized to perform work on the backflow prevention device serving any mechanical system. A Mechanical Contractor licensed by the Plumbing Section of the Division of Buildings and Inspections is authorized to work on process piping up to the backflow prevention device and the branch pipe in which the backflow device is installed.

114.4.1 Journeyman Pipefitter license. An individual in possession of a valid Journeyman Mechanical Pipefitter license issued by the Mechanical Section of the Division of Buildings and Inspections may obtain a Journeyman Pipefitter license from the Plumbing Section upon completion of a written application, proof of possessing the Journeyman Mechanical Pipefitter license, a 3/4 inch by 3/4 inch color photograph and payment of the application and license fee stated in Table 111.6.

114.4.2 Validation of Journeyman Pipefitter licenses. Upon application for or renewal of a Journeyman Pipefitter license, the Journeyman Pipefitter shall present proof of a valid Missouri Department of Natural Resources Public Drinking Water Certification for Backflow Prevention Assembly Tester Rule 10CSR60-11.010 certification to the plumbing section and the Journeyman Pipefitter license will be notated as complying with Section 114.4.

Chapter 2 Definitions

Add the following definitions:

Addition - An extension or increase in floor area, number of stories, or height of a building or structure.

Additional Inspection - An inspection which is not a required inspection as defined in this Code but which in the judgment of the Code Official is reasonably necessary to enforce this Code or as an inspection which is required as a result of unusual or complicated construction and/or is defined as an inspection which is made as a result of non-compliance, not ready, lockout, etc. See Table 107.11.3.

Alteration - Any construction or renovation to an existing structure other than repair or addition.

Change the following definitions:

Authority Having Jurisdiction - Whenever the term "Authority Having Jurisdiction" is used it shall be deemed to mean "Code Official" as defined in Section 104.1 of this Code.

Backflow - The undesirable reversal of flow of water or mixtures of water and other liquids, gases or other substances into the public or private potable water system from any source(s).

Add the following definitions:

Backflow Device - A device or means to prevent backflow into the potable water system.

Backflow Device Installed - When potable water is connected to the inlet side and a potential backflow hazard is present at the

outlet side of a backflow device.

Bathroom Group - Unless specifically cited in the body of the Code, a bathroom group shall consist of a water closet, a lavatory and a bathtub and/or shower stall.

Bedroom - A room furnished with a bed and intended primarily for sleeping.

Board - The Board of Examiners for Master Plumbers, Master Drainlayers and Journeyman Plumbers.

Board of Appeals - The Board of Building Appeals as defined in the Building Code.

Building Classification - The arrangement adopted by within the Building Code for the designation of buildings in classes according to occupancy.

Building Code - the Building Code adopted by the City of St. Louis.

Change the following definition:

Building Drain - That part of the lowest piping of a drainage system which receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building sewer beginning five (5) feet (1525 mm) outside the building wall.

Building Supply/Water Service Pipe - see "Water Service Pipe/Building Supply."

Add the following definitions:

Building Trap - A device, fitting, or assembly of fittings installed in the building drain to prevent circulation of air between the drainage system of the building and the building sewer.

Central Use Facility(s) - A restroom facility or facilities designed and sized to accommodate the total occupant load of the building, located within the distance required by the Code for maximum access and meeting the requirements of the Code within its use category.

Change the following definition:

Certified Backflow Assembly Tester - A person who is certified by the Missouri Department of Natural Resources as a Backflow Prevention Device Tester and either is a Master Plumber, is a Journeyman Plumber, or possesses a Backflow Prevention Device Tester Certificate issued pursuant to this Code for the particular application involved.

Code - the Uniform Plumbing Code, 2003 Edition, with the additions, deletions and changes prescribed in this ordinance.

Add the following definitions:

Committee - The Committee of Plumbing Review as created herein.

Containment - (Cross-connection) Protection of the public water system by installation of an approved backflow prevention assembly or air-gap separation at the user connection from the main service line(s).

Change the following definition:

Cross-Connection - Any actual or potential connection or structural arrangement, between the public potable water supply system and any other source or system through which it is possible to introduce into any part of the public water system any used water, industrial fluid, gas or substance other than the intended potable water with which the system is supplied. By-pass arrangements, jumper connections, removable sections, swivel or change-over devices through which or because of which, backflow can or may occur are considered to be cross connections.

Add the following definitions:

Cross-Connection, Direct - A continuous, enclosed interconnection or cross-connection to allow the flow of fluid from one system to the other.

Cross-Connection, Indirect - A potential cross-connection such that the interconnection is not continuously enclosed and the completion of the cross-connection depends on the occurrence of one or more abnormal conditions.

Cross-Connection, Isolation - Protection of the user water system by installation of an approved backflow prevention device or assembly at the point of connection between the users water system and any device, equipment, appliance, appurtenance, assembly or area which might constitute a real or potential cross-connection.

Dead End - That part or branch of a drainage piping system, which is without a free circulation of air.

DWV - An acronym for "drain-waste-vent" referring to the combined sanitary drainage and venting systems and the storm water drainage system. This term is technically equivalent to "soil-waste-vent" (SWV).

Engineer - An engineer licensed to practice professional engineering in Missouri in accordance with the professional licensing laws of the State of Missouri.

Fixture Group - A set of fixtures within a room or rooms serving an individual or group of individuals at a unique single time.

Health Department - The City of St. Louis Department of Health.

Hot Water - Water with a temperature of not less than 120 degrees F and not more than 140 degrees F except that commercial dishwashing machines and similar equipment shall be provided with water 180 degrees F for sterilization purposes.

Licensed Design Professional - An architect or engineer, licensed to practice architecture or engineering, as defined by the statutory requirements of the professional licensing laws of the State of Missouri.

Mechanical Code - The Mechanical Code adopted by the City of St. Louis.

Minor Repairs - A permit shall not be required for the following:

1. The stopping of leaks in drains, soil, waste or vent pipe, provided, however, that should any trap, drainpipe, soil, waste or vent pipe become defective and it becomes necessary to remove and replace the same with new material, the same shall be considered as new work and a permit shall be procured and inspection made as provided in this Code.
2.
 - (a) The clearing of stoppages, or;
 - (b) the repairing of leaks in pipes, valves or fixtures, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures or the replacement or repairs to backflow prevention devices, pressure reducing or regulating valves, or any other installation, repair or alteration which in the judgment of the Plumbing Supervisor is of such a nature which if improperly installed, repaired or altered would endanger the public health.

Exemption from the permit requirements of this Code shall not be deemed to grant authorization for any work to be done in violation of the provisions of this Code or any other laws or ordinances of this jurisdiction.

Office - The office of the Section of Plumbing Regulations and Inspections.

Other Establishment - Any public or private structure other than a dwelling, which generates sewage.

Change the following definition:

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 and lawn irrigation systems, 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 boilers for potable water and vents for same.

Add the following definitions:

Reinspection - A reinspection is defined as an inspection which is required as a result of unusual or complicated construction and/or is defined as an inspection which is made as a result of non-compliance, not ready, lockout, etc. An inspection which is not a required inspection as defined in this Code but which in the judgment of the Code Official is reasonably necessary due to non-compliance with Code requirements, or work not ready or accessible for inspection when requested. Fees for reinspections shall be as specified in Section 107 of this Code.

Required Inspection - An inspection which falls within the minimum number of inspections required by this Code.

Change the following definitions:

Roof Drain - A drain installed to receive water collecting on the surface of a roof and to discharge it into a leader, downspout, or conductor. Roof drain includes sump receivers, clamps, grates, sumps, extension, hangers, supports and all other appurtenances necessary for its function, security and stability.

Roughing-In - The installation of all parts of the plumbing system which can be completed prior to the installation of fixtures. This includes drainage, water supply, gas piping, and vent piping and the necessary fixture supports.

- (1) **Ground Rough-In** - All underground piping, which shall include waste, vent and distribution piping.
- (2) **Stack Rough-In** - All waste, vent and distribution water supply lines above ground.

Add the following definitions:

Sanitary Sewer - A sewer which carries sewage and excludes storm, surface and ground water.

Service Connection - Any water line or pipe connected to a water distribution main or pipe for the purpose of conveying water to a point of use.

Sewer District - The Metropolitan Saint Louis Sewer District (MSD).

Change the following definitions:

Single Family Dwelling - A one family dwelling, which is the only dwelling located on a parcel of ground, with the usual accessory buildings.

Slip Joint - An adjustable tubing connection, consisting of a compression nut, and/or a friction ring, and a compression washer, designed to fit a threaded adapter fitting, or a standard taper pipe thread.

Add the following definitions:

Standpipe - A vertical pipe generally used for the storage and distribution of water for fire extinguishing.

Street Department - The City of Saint Louis Street Department.

Water Customer - Any person who receives water from a public water system.

Change the following definition:

Water Distributing Pipe - A pipe within the building or on the premises, including the building supply and branches, which conveys water from the water service pipe to the point of usage.

Add the following definitions:

Water Heater Boiler - A water heater boiler, domestic, has one or more of the following parameters:

- (1) Exceeds input capacity of 200,000 But/hr (57.1 kW)
- (2) Exceeds 120 gallons storage capacity
- (3) Exceeds 160 psi operating pressure
- (4) Exceeds 210 degrees Fahrenheit operating temperature

Water Service Pipe/Building Supply - The pipe from the water main, including the corporation and meter (if installed), to the water distributing system of the building served.

Workmanlike - Executed in a skilled manner; e.g., generally plumb, level, square, in line, undamaged and without marring adjacent work.

Chapter 3 General Regulations

Change Section 301.1.4 to read as follows:

301.1.4 Existing Buildings. The plumbing systems in all existing buildings or premises shall be maintained in accordance with this Code and the City of Saint Louis Property Maintenance Code. In existing buildings or premises in which plumbing installations are to be repaired, altered, renovated, or extended, this Code and the City of Saint Louis Existing Building Code shall govern all work. Where conflicts occur, the more stringent provisions shall apply. The licensing provision of this Code shall apply in all cases.

Change Section 305.1 to read as follows:

305.1 Every building in which plumbing fixtures are installed shall have a connection to a public sewer.

Delete Section 305.2.

Change Section 310.1 to read as follows:

310.1 The intent of this Code is to require that all piping be installed in a consistent and uniform manner, straight and true, with change of direction obtained by use of fittings designed for that purpose and not by deflecting pipe. All work shall be performed in a workmanlike manner.

Change Section 311.2 to read as follows:

311.2 No drainage or vent piping shall be drilled and tapped, nor may a saddle be used for the purpose of making connections thereto, and no cast iron soil pipe shall be threaded.

Change Section 313.9 to read as follows:

313.9 Plastic and copper piping run through framing members to within one (1) inch (25.4 mm) of the exposed framing shall be protected by steel nail plates not less than 18 gauge steel, the plate shall cover the area of the pipe where the member is notched or bored, and shall extend a minimum of 4 inches (102 mm) above sole plates, below top plates and 2 inches (51 mm) to each side of the centerline of the pipe to be protected which is located in a stud, joist or rafter.
Exception: See Section 1211.3.4 and the City of Saint Louis Fuel Gas Code for protection of Fuel Gas Piping.

Change Section 313.10.1 to read as follows:

313.10.1 Sleeves shall be provided to protect all piping through concrete or masonry exterior or bearing walls.

Exception: Initial entry of 1-1/4" (inches) and smaller copper water service piping to residential single-family dwellings.

Change Section 314.7 to read as follows:

314.7 Gas Piping.

Add Sections 314.7.1 through 314.7.3 to read as follows:

314.7.1 Piping shall be supported with pipe hooks, metal pipe straps, bands, brackets, or hangers suitable for the size of piping, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration. Piping shall be anchored to prevent undue strains on connected equipment and shall not be supported by other piping. Pipe hangers and supports shall conform to the requirements of ANSI/MSS SP-58, Pipe Hangers and Supports - Materials, Design and Manufacture.

314.7.2 Spacing of supports in gas piping installations shall not be greater than shown in Table 3-0. Spacing of supports for CSST shall be in accordance with the CSST manufacturer's instructions.

314.7.3 Supports, hangers, and anchors shall be installed so as not to interfere with the free expansion and contracting of the piping between anchors. All parts of the supporting equipment shall be designed and installed so they will not be disengaged by movement of the supported piping.

Add Table 3-0 to read as follows:

STEEL PIPE, NOMINAL SIZE OF PIPE (inches)	SPACING OF SUPPORT (feet)	NOMINAL SIZE OF TUBING (SMOOTH-WALL) (inch O.D.)	SPACING OF SUPPORTS (feet)
1/2	6	1/2	4
3/4 or 1	8	5/8 or 3/4	6
1-1/4 or larger (horizontal)	10	7/8 or 1 (horizontal)	8
1-1/4 or larger (vertical)	every floor level	1 or larger (vertical)	every floor level

For SI units: 1 ft = 0.305 m.

Change Section 315.2 to read as follows:

315.2 Driving may be done in yards, courts, or driveways of any building site. When pipes are driven, the drive pipe shall be at least one (1) size larger than the pipe to be laid. Tunneling is not allowed.

Change Section 316.2.2 to read as follows:

316.2.2 Unions. Approved unions may be used in drainage work when accessibly located in the trap seal or between a fixture and its trap; in the vent system, except underground or in wet vents; or at any point in the water supply system. Unions shall not be used in gas piping where it is to be concealed.

Delete Section 320.0

Chapter 4 Plumbing Fixtures and Fixture Fittings

Change Section 402.4 to read as follows:

402.4 Metered Faucets. Manual, self-closing, or self-closing metering faucets shall be installed on lavatories intended to serve to transient public, such as those in, but not limited to, service stations, train stations, airports, restaurants and convention halls. Metered faucets shall deliver not more than 0.25 gallons (1.0 liter) of water per use.

Change Section 406.2 and 406.3 to read as follows:

406.2 Prohibited Urinals. Floor outlet stall urinals, urinals with external traps, floor-type and wall-hung-type trough urinals shall be prohibited. Urinals which have an invisible seal or which have an unventilated space or wall, which is not thoroughly washed at each discharge, example "waterless urinal" shall be prohibited.

406.3 Fixed wooden, concrete, cement, or tile wash trays or sinks for domestic use shall not be installed in any building designed or used for human habitation. No sheet metal lined wooden bathtub shall be installed or reconnected. No dry or chemical closet (toilet) shall be installed in any building used for human habitation, unless first approved by the Authority Having Jurisdiction.

Change Section 406.5 to read as follows:

406.5 Used or Condemned Fixtures. Previously used fixtures or fixtures which have been condemned shall not be installed in any plumbing system. This does not include the use of fixtures removed and then reinstalled for the same use and in essentially the same location.

Change Section 407.2 to read as follows:

407.2 Restaurant kitchen and other special use sinks may be made of approved type bonderized and galvanized sheet steel of not less than No. 16 U.S. Gauge (0.0625 inches) (1.6 mm) and stainless of approved quality and grade. All sheet metal plumbing fixtures shall be adequately designed, constructed, and braced in an approved manner to satisfactorily accomplish their intended purpose.

Change Section 408.5 to read as follows:

408.5 Securing Floor-Mounted, Back Outlet Water Closet Bowls. Floor mounted, back-outlet water closet bowls shall be set level with an angle of ninety (90) degrees (1.58 rad) between the floor and wall at the centerline of the fixture outlet. The floor and wall shall have a flat mounting surface for at least five (5) inches (127 mm) to the right and left of the fixture outlet centerline. The fixture shall be secured to the wall outlet flange or drainage connection, and to the floor by corrosion-resistant screws or bolts. The closet flange shall be secured to a firm base.

Where floor-mounted, back-outlet water closets are used, the soil pipe shall not be less than three (3) inches (76 mm) in diameter. Offset, eccentric or reducing floor flanges shall not be used.

Change Section 412.0 through 412.1 to read as follows:

412.0 Floor Drains, Floor Sinks and Shower Stalls

412.1 Floor drains and floor sinks shall be considered plumbing fixtures and each such drain shall be provided with an approved type strainer having a waterway equivalent to the area of the tailpiece. Floor drains, floor sinks, floor receptors, and shower drains shall be of an approved type, suitably flanged to provide a watertight joint in the floor.

Add Section 412.1.1 to read as follows:

412.1.1 Floor drains and floor sinks shall be installed in accordance with the provisions set forth in this Code and in the manner set forth hereunder:

- A. A connection for a floor drain at the automatic clothes washer above ground may be discharged directly into the riser-pipe (stand pipe) above the trap of the automatic clothes washer drain and the floor drain need not be trapped.
- B. Above ground floor drains and hub drains three (3") inches in diameter and larger shall be vented at the end of the horizontal line to which they are connected.
- C. Underground traps three inches (3") in diameter and larger for floor drains, hub drains or stand pipe

receptors need not be vented if sufficient stack vents or vent stack are connected to the underground system to ensure adequate ventilation and protection of the trap seals.

- D. Traps two inches (2") in diameter installed for floor drains, hub drains and standpipe receptors shall be vented.
- E. Where floor drains are provided the room floors shall be pitched toward the floor drain.
- F. The connection of a floor drain, three (3") or four (4") inches in size when installed underground shall be connected into the horizontal building drain not less than five (5) feet downstream from the soil or waste stack.
- G. Floor sinks being used as indirect waste receptors for plumbing fixtures or appliances shall be individually wasted and vented in accordance with the provisions established in this Code.
- H. Floor sinks, three (3") inch trap size and larger, being used as indirect waste receptors for drip drainage and other similar discharges shall be either individually vented or line vented in accordance with the provisions established in this Code.

Change Sections 412.2 through 412.2.3 to read as follows:

412.2 Location of Floor Drains. Floor drains shall be installed in the following areas and the floor shall slope toward the floor drains:

412.2.1 All toilet rooms designated as handicapped, and toilet rooms containing two (2) or more water closets or a combination of one (1) water closet and one (1) urinal, except in a dwelling unit.

412.2.2 Commercial and institutional kitchens.

412.2.3 Laundry rooms in commercial and institutional buildings and common laundry facilities in multi-family dwelling buildings.

Add Sections 412.2.4 through 412.2.10 to read as follows:

412.2.4 Toilet rooms designated for public use where no central use facility is provided.

412.2.5 Within fifteen (15) feet and in the same room as a hot water heater or water heater boiler.

412.2.6 Within fifteen (15) feet and in the same room as emergency showers.

412.2.7 Within fifteen (15) feet and in the same room as backflow devices which have received approval from the MO DNR, which have in their design the capability of a discharge.

412.2.8 Within fifteen (15) feet and in the same room as a boiler.

412.2.9 All toilet rooms having public access except in a dwelling unit, and all toilet rooms in daycare or preschool facilities, which are designated for use by children using these facilities.

412.2.10 All wheelchair accessible roll-in showers shall be supplied, in addition to the shower drain, with a threshold drain outside the shower within 5 feet of the shower drain. The waste-line of the threshold drain shall be connected to the shower drain waste pipe above the trap.

Change Section 413.3 to read as follows:

413.3 Separate Facilities. Separate toilet facilities shall be provided for each sex.

Exceptions:

- (1.) *Residential installations.*
- (2.) *In occupancies serving ten (10) or fewer people, one (1) toilet facility, designed for use by no more than one (1) person at a time, shall be permitted for use by both sexes.*
- (3.) *In business and mercantile occupancies with a total of floor area of twenty five hundred (2500) square feet (139.5 m²) or less, one (1) toilet facility, designed for use by no more than one (1) person at a time, shall satisfy the requirements for serving customers and employees of both sexes.*
- (4.) *In assembly occupancies, except for Food Service Establishments, with a total floor area of fifteen hundred*

(1500) square feet or less, having an occupant load of thirty (30) or less, one (1) toilet facility, designed for use by no more than one (1) person at a time, shall satisfy the requirement for serving customers and employees of both sexes.

Change Section 413.6 to read as follows:

413.6 Food Service Establishments. Food service establishments with an occupant load of one hundred (100) or more shall be provided with separate facilities for employees and customers. Customer and employee facilities may be combined for occupant loads less than one hundred (100). Customer occupant load shall be determined as one occupant per each fifteen (15) square foot or part thereof, of dining and waiting area including outdoor dining area where provided. When separate facilities are required for employees and customers and the total number of employees exceeds 40 at any time, a second toilet room shall be provided for employees and such toilet rooms shall be uni-sex. Employee toilet rooms do not require handicap accessibility if other facilities in this establishment are available which meet handicap accessibility requirements.

Change Table 4-1 to read as follows:

Table 4-1 Minimum Plumbing Facilities¹

Each building shall be provided with sanitary facilities, including provisions for the physically disabled as prescribed by the department having jurisdiction. Requirements for the physically disabled shall be based on standards referenced by the Building Code. The total occupant load shall be determined by minimum exiting requirements.

Exceptions:

1. For Mercantile occupancies, square feet of net free floor area shall be used to calculate the number of occupants.
2. For Industrial and Warehouse occupancies, the actual number of occupants shall be used as the total occupant load. For a building with a warehouse area of ten thousand (10,000) square feet or greater, a minimum of one (1) unisex toilet room including one (1) floor drain, one (1) water closet, and one (1) lavatory with hot water shall be located in the warehouse area.
3. The minimum number of fixtures shall be calculated at fifty (50) percent male and fifty (50) percent female on the total occupant load, except when specific occupancy information is provided acceptable to the Authority Having Jurisdiction.
4. Where outdoor seating is provided for a restaurant, the actual outdoor seating area shall be included in the total occupant load area for the restaurant.

Type of Building or Occupancy ²	Water Closets ¹⁴ (Fixtures per Person)		Urinals ^{5,10} (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathubs or Showers (Fixtures per Person)	Drinking Fountains ^{3,13} (Fixtures per Person)
	Male	Female		Male	Female		
Assembly Places - Theaters, Auditoriums, Convention Halls, etc. - for permanent employee use. ¹⁵	1: 1-40 2: 41-60 3: 61-100 4: 101-150	1: 1-15 2: 16-40 3: 41-60 4: 61-75 5: 76-100 6: 101-150	Male 0: 1-15 1: 16-75 2: 75-150 Over 150: add 1 fixture for each additional 80 males.	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		
	Over 75: add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females.						
Assembly Places - Theaters, Auditoriums, Convention Halls, etc. - for public use	Male 1: 1-100 2: 101-300 3: 301-600	Female 1: 1-25 2: 26-50 3: 51-100 4: 101-200 5: 201-400	Male 0: 1-50 1: 51-200 2: 201-450 3: 451-800 Over 800: add 1 fixture for each additional 400 males.	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		1: 1-150 2: 151-400 3: 401-750 Over 750: add 1 fixture for each additional 500 persons.

	Add 1 fixture for each additional 500 males over 600 and 1 fixture for each additional 150 females over 400.						
Dormitories ⁹ School or Labor	Male 1 per 10	Female 1 per 8	Male 1 per 25 Over 150: add 1 fixture for each additional 50 males.	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets	1 per 8	1 per 150 ¹²
	Add 1 fixture for each additional 25 males over 10 and 1 fixture for each additional 20 females over 8.						
Dormitories ¹⁵ - for staff use	Male 1: 1-40 2: 41-60 3: 61-75	Female 1: 1-15 2: 16-30 3: 31-50 4: 51-75	Male 0: 1-15 1: 16-75 Over 75: add 1 fixture for each additional 80 males.	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		
	Over 75: add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females.						
Dwellings ⁴ Single Dwelling Multiple Dwelling or Apartment House	1 per dwelling 1 per dwelling or apartment unit			1 per dwelling 1 per dwelling or apartment unit	1 per dwelling 1 per dwelling or apartment unit		
Hospital Waiting Rooms	1 per room			1 per room			1 per 150 ¹²
Hospitals - for employee use ¹⁵	Male 1: 1-40 2: 41-60 3: 61-75	Female 1: 1-15 2: 16-30 3: 31-50 4: 51-75	Male 0: 1-15 1: 16-75 Over 75: add 1 fixture for each additional 80 males.	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		
	Over 75: add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females.						
Hospitals Individual Room	1 per room			1 per room	1 per room		
Hospitals Ward Room	1 per 8 patients			1 per 10 patients	1 per 20 patients		1 per 150 ¹²

Industrial 6 Warehouse Workshops, Foundries and similar establishments - for employee use ¹⁵	Male 1: 1-10 2: 11-25 3: 26-50 4: 51-75 5: 76-100	Female 1: 1-10 2: 11-25 3: 26-50 4: 51-75 5: 76-100		Male 1/2 # of water closets and urinals	Female 1/2 # of water closets	1 shower for each 15 persons exposed to excessive heat or to skin contamina- tion with poisonous, infectious, or irritating material	1 per 150 ¹²
	Over 100: add 1 fixture for each additional 30 persons.						
Institutional - Other than Hospitals or Penal Institutions (on each occupied floor)	Male 1 per 25	Female 1 per 20	Male 0: 1-9 1: 10-50 Add 1 fixture for each additional 50 males	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets	1 per 8	1 per 150 ¹²
Institutional - Other than Hospitals or Penal Institutions (on each occupied floor) - for employee use ¹⁵	Male 1: 1-40 2: 41-60 3: 61-75	Female 1: 1-15 2: 16-30 3: 31-50 4: 51-75	Male 0: 1-15 1: 16-75 Over 75: add 1 fixture for each additional 80 males	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		
	Over 75: Add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females.						
Hotels, Motels	1 per guestroom			1 per guestroom		1 per guestroom	
Mercantile or Retail Buildings	Male 1: 1-200 2: 201-400 3: 401-600	Female 1: 1-50 2: 51-100 3: 101-300	Male 0: 1-100 1: 101-300 2: 301-600 Over 600: add 1 fixture for each additional 400 males	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		0: 0-100 12 1: 101-200 2: 201-600 3: 601-1000 Add 1 fixture for each additional 1000 persons
	Add 1 fixture for each additional 500 males over 600, and add 1 fixture for each additional 200 females over 300.						
Office or Public Buildings	Male 1: 1-200 2: 201-400 3: 401-600	Female 1: 1-50 2: 51-100 3: 101-300	Male 0: 1-100 1: 101-300 2: 301-600 Over 600: add 1 fixture for each additional 400 males	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		1 per 150 ¹²

	Add 1 fixture for each additional 500 males over 600, and add 1 fixture for each additional 200 females over 300.						
Office or Public Buildings - for employee use ¹⁵	Male 1: 1-40 2: 41-60 3: 61-100 4: 101-150	Female 1: 1-15 2: 16-40 3: 41-60 4: 61-75 5: 76-100 6: 101-150	Male 0: 1-15 1: 16-75 2: 76-150 Over 150: add 1 fixture for each additional 80 males	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		1 per floor
	Over 150: add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females						
Penal Institutions - for employee use ¹⁵	Male 1: 1-40 2: 41-60 3: 61-75	Female 1: 1-15 2: 16-30 3: 31-50 4: 51-75	Male 0: 1-15 1: 16-75 Over 75: add 1 fixture for each additional 80 males	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		
	Over 75: add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females						
Penal Institutions - for prison use Cell Exercise Room	1 per cell 1 per exercise room		Male 1 per exercise room	1 per cell 1 per exercise room			1 per cell block floor 1 per exercise room
Restaurants, Pubs, and Lounges ¹¹	Male 1: 1-50 2: 51-250 3: 250-300	Female 1: 1-25 2: 26-50 3: 51-100 4: 101-150 5: 151-250	Male 0: 1-25 1: 26-100 2: 101-150 Over 150: add 1 fixture for each additional 150 males.	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		
	Add 1 fixture for each additional 100 males over 300, and add 1 fixture for each additional 75 females over 250.						
Schools - for staff use All Schools ¹⁵	Male 1: 1-15 2: 16-35 3: 36-55	Female 1: 1-15 2: 16-25 3: 26-55	Male 1 per 50	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		
	Over 55: add 1 fixture for each additional 80 males and 1 fixture for each additional 40 females.						

Nursery Schools - for student use	1: 1-15 2: 16-30 3: 31-50 Over 50: add 1 fixture for each additional 30 persons			1/2 total number of water closets			1 per 150 ¹²	
Schools - for student use								
Elementary	Male 1 per 40	Female 1 per 20	Male 1 per 75	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		1 per 150 ¹²	
Secondary	Male 1 per 50	Female 1 per 25	Male 1 per 100					1 per 150 ¹²
Others (Colleges, Universities, Adult Centers, etc.)	Male 1 per 50	Female 1 per 25	Male 1 per 100					1 per 150 ¹²
Worship Places: Assembly Place and Educational and Activities Unit	Male 1: 1-150 2: 151-300	Female 1: 1-75 2: 76-150 3: 151-300	Male 0: 1-75 1: 76-300 Add 1 fixture for each additional 300 males.	Male 1/2 # of water closets and urinals	Female 1/2 # of water closets		1: 1-300 2: 301-600 3: 601-1000 Add 1 fixture for each additional 1000 persons.	
	Over 300: add 1 fixture for each additional 300 males, and add 1 fixture for each additional 150 females.							

1. The figures shown are based upon one (1) fixture being the minimum required for the number of persons indicated or any fraction thereof
2. Building categories not shown on this table shall be considered separately by the Authority Having Jurisdiction
3. Drinking fountains shall not be installed in toilet rooms.
4. Laundry trays. One (1) laundry tray or one (1) automatic washer standpipe for each dwelling unit or one (1) laundry tray or one (1) automatic washer standpipe, or combination thereof, for each twelve (12) apartments. Kitchen sinks, one (1) for each dwelling or apartment unit.
5. For each urinal added in excess of the minimum required, one water closet may be deducted. The number of water closets shall not be reduced to less than two-thirds (2/3) of the minimum requirement.
6. As required by ANSI Z4.1-1968, Sanitation in Places of Employment.
7. Where there is exposure to skin contamination with poisonous, infectious, or irritating materials, provide one (1) lavatory for each five (5) persons.
8. Twenty-four (24) lineal inches (610 mm) of wash sink or eighteen (18) inches (457 mm) of a circular basin, when provided with water outlets for such space, shall be considered equivalent to one (1) lavatory.
9. Laundry trays, one (1) for each one hundred (100) persons.
10. General. In applying this schedule of facilities, consideration must be given to the accessibility of the fixtures. Conformity purely on a numerical basis may not result in an installation suited to the need of the individual establishment. For example, schools should be provided with toilet facilities on each floor having classrooms.
 - a. Surrounding materials, wall and floor space to a point two (2) feet (610 mm) in front of urinal lip and four (4) feet (1219 mm) above the floor, and at least two (2) feet (610 mm) to each side of the urinal shall be lined with non-absorbent materials.
 - b. Trough urinals are prohibited.
11. A restaurant is defined as a business that sells food to be consumed on the premises.
 - a. The number of occupants for a drive-in restaurant shall be considered as equal to the number of parking stalls.

- b. Employee toilet facilities are not to be included in the above restaurant requirements. Hand washing facilities must be available in the kitchen for employees.
- c. For a drive-thru or take-out restaurant with seating, not to exceed twenty (20) customers, toilet facilities shall be provided available to customers and employees. A minimum of one (1) toilet room consisting of one (1) water closet, one (1) lavatory, and one (1) floor drain shall be available to customers.
- d. For a drive-thru restaurant or take-out with no seating, toilet facilities are required for employees only.
- e. For a facility dispensing gas to the public which offers food and drink in a structure larger than seven hundred fifty (750) square feet, toilet facilities for male and female shall be provided available to customers and to employees.
 - 1. Where there are more than twelve (12) but less than twenty-three (23) gas dispensing stations available, there shall be provided for the male toilet room two (2) water closets, one (1) urinal, one (1) lavatory, and one (1) floor drain and there shall be provided for the female toilet room two (2) water closets, one (1) lavatory, and one (1) floor drain.
 - 2. For each additional ten (10) gas dispensing stations there shall be provided for the male toilet room an additional one (1) water closet or urinal, and one (1) lavatory, and there shall be provided for the female toilet room an additional one (1) water closet, and one (1) lavatory.
- 12. Where food is consumed indoors, water stations may be substituted for drinking fountains. Offices, or public buildings for use by more than six (6) persons shall have one (1) drinking fountain for the first one hundred fifty (150) persons and one (1) additional fountain for each three hundred (300) persons thereafter. At least one (1) drinking fountain of those required shall be located within twenty-five (25) feet of the entrance to the primary toilet room on any floor.
- 13. There shall be a minimum of one (1) drinking fountain per occupied floor in schools, theaters, auditoriums, dormitories, offices or public building.
- 14. For any facility which is constructed, or undergoes major structural renovation as a place of assembly for public amusement including, but not limited to, sports stadiums and arenas, auditoriums and assembly halls, there shall be provided at a minimum the number of water closets for women as there are provided the total of the number of water closets and the number of urinals provided for men. The term "major structural renovation" means any reconstruction, rehabilitation, addition or other improvement, which requires more than fifty percent (50%) of the gross floor area of the existing facility to be rebuilt.
- 15. Provide one (1) service sink per floor.
- 16. Provide one (1) service sink per structure or per wing.

Change Section 420.0 to read as follows:

420.0 Shower and Tub/Shower Combination Control Valves. Showers and tub-shower combinations in all buildings shall be provided with individual control valves of the pressure balance, thermostatic, or combination pressure balance/thermostatic mixing valve type, that provide scald and thermal shock protection. These valves shall conform to ASSE 1016. Gang showers, when supplied with a single temperature controlled water supply pipe, may be controlled by a master thermostatic mixing valve conforming to ASSE 1069 in lieu of individually controlled pressure balance, thermostatic, or combination pressure balance/thermostatic mixing valve. All valves shall be adjusted per manufacturer's instructions to deliver a maximum mixed water setting of 120 degrees F (49 degrees C). The water heater thermostat shall not be considered a suitable control for meeting this provision.

Chapter 5 Water Heaters

Change Section 501.0 to read as follows:

501.0 General

The regulations of this chapter shall govern the construction, location, and installation of fuel burning and other water heaters and water heater boilers heating potable water, together with all chimneys, vents, and their connectors. The minimum capacity for water heaters shall be in accordance with the first hour rating listed in Table 5-1. All design, construction, and workmanship shall be in conformity with accepted engineering practices, manufacturer's installation instructions, and applicable standards and shall be of such character as to secure the results sought to be obtained by this Code. No water heater shall be hereinafter installed which does not comply in all respects with the type and model of each size thereof approved by the Authority Having Jurisdiction. A list of accepted gas equipment standards is included in Table 14-1.

Add Section 501.1 to read as follows:

501.1 Water heaters are water heating appliances and shall not exceed any one of the following limitations:

- (1) 200,000 Btu (58 kw) maximum input capacity
- (2) 120 gallons of storage capacity
- (3) 160 psi operating pressure
- (4) 210E degrees (F) operating temperature

Water heating equipment which does not exceed any of these parameters shall be constructed to either AGA or UL design standards.

Change Section 502.6 to read as follows:

502.6 Combustible Material. Any material not defined as noncombustible.

Add Section 502.6.1 to read as follows:

502.6.1 Noncombustible Materials. Materials that, when tested in accordance with ASTM E136, have less than three of four specimens meeting all of the following criteria:

1. The recorded temperature of the surface and interior thermocouples shall not at any time during the test rise more than 54EF (30EC) above the furnace temperature at the beginning of the test.
2. There shall not be flaming from the specimen after the first 30 seconds.
3. If the weight loss of the specimen during the testing exceeds 50 percent, the recorded temperature of the surface and interior thermocouples shall not at any time during the test rise above the furnace air temperature at the beginning of the test, and there shall not be flaming of the specimen.

Change Section 503.0 to read as follows:

503.0 Permits.

It shall be unlawful for any person to install, remove, or replace, or cause to be installed, removed, or replaced any water heater or water heater boiler without first obtaining a permit from the Authority Having Jurisdiction to do so. Water heater boilers shall also be permitted by the City of Saint Louis Mechanical Section. All unfired water storage vessels that are not directly vented to the atmosphere shall be installed in accordance with the City of Saint Louis Mechanical Code and shall be permitted by the City of Saint Louis Mechanical Section.

Change Section 505.1 to read as follows:

505.1 Location. Fuel-fired appliances shall not be located in, or obtain combustion air from, any of the following rooms or spaces:

1. Sleeping rooms.
2. Bathrooms.
3. Toilet rooms.
4. Storage closets.
5. Surgical rooms.
6. Plenums.

Exception: *This section shall not apply to the following appliances:*

1. Direct-vent appliances that obtain all combustion air directly from the outdoors; however, fuel-fired appliances shall not be installed in plenums.
2. Solid fuel-fired appliances and fireplaces, provided that the room is not a confined space and the building is not of unusually tight construction.
3. Appliances installed in a dedicated enclosure in which all combustion air is taken directly from the outdoors, in accordance with Section 703 of the City of Saint Louis Mechanical Code. Access to such enclosure shall be through a solid door, weather-stripped in accordance with the exterior door air leakage requirements of Chapter 13 the City of Saint Louis Building Code and equipped with an approved self-closing device.

Add Sections 503.1 and 503.2 to read as follows:

505.3.1 Appliances, draft hoods, vent connectors, shut off valves and relief valves shall be installed to maintain the required clearances to combustible and noncombustible construction as specified in the listing and the manufacturer's instructions. Clearances to combustibles shall be reduced only in accordance with Section 308 of the City of Saint Louis Mechanical Code. Clearances to combustibles shall include such considerations as door swing, drawer pull, overhead projections or shelving and window swing, shutters, coverings and drapes. Devices such as doorstops or limits, closers, drapery ties or guards shall not be used to provide the required clearances. Clearances around water heaters and hot water storage tanks to elements of permanent construction, including other installed equipment and appliances, shall be sufficient to allow inspection, service, repair or replacement without removing such elements of permanent construction or disabling the function of a required fire-resistance-rated assembly.

505.3.2 Gas-fired water heaters shall be tested in accordance with ANSI Z21.10.1 Gas Water Heaters, Volume I, Storage Water Heaters With Input Ratings of 75,000 Btu Per Hour or Less and ANSI Z21.10.3 Gas Water Heaters, Volume I, Storage Water Heaters with input ratings above 75,000 Btu per hour.

Change Sections 506.0 through 506.3 to read as follows:

506.0 Water Heater Construction and Installation

506.1 Fuel Gas Fired Water Heaters. Gas-fired water heaters and water heater boilers shall be listed and labeled. Gas-fired water heaters shall be tested in accordance with ANSI Z21.10.1 Gas Water Heaters, Volume I, Storage Water Heaters With Input Ratings of 75,000 Btu Per Hour or Less or ANSI Z21.10.3 Gas Water Heaters, Volume I, Storage Water Heaters with input ratings above 75,000 Btu per hour. Gas-fired water heaters shall be installed as required by the terms of their approval, in accordance with the conditions of their listing, in accordance with the manufacturer's installation instruction and this Code. Gas-fired water heaters shall be provided with a manual gas shut-off valve within six (6) feet (1.8 m) of the appliance. Manufacturer's installation instructions shall be available on the job site at the time of inspection.

506.2 Oil-Fired Water Heaters. Oil-fired water heaters shall be listed and labeled. Oil-fired water heaters shall comply with UL 732. Vents or chimneys for such appliances shall be approved types and shall be made for an adequate supply of air for combustion and for adequate ventilation of heater rooms or compartments. Oil fired water heaters shall be installed as required by the terms of their approval, in accordance with the conditions of their listing, in accordance with the manufacturer's installation instructions, Chapter 13 (Fuel Oil Piping and Storage) of the City of Saint Louis Mechanical Code, and this Code. Oil-fired water heaters shall be provided with a manual oil shut-off valve within six (6) feet (1.8 m) of the appliance. Manufacturer's installation instructions shall be available on the job site at the time of inspection. All oil-fired storage-type water heaters and hot water boilers shall be provided with, in addition to the primary temperature controls, an over-temperature safety protection device constructed, listed, labeled, and installed in accordance with nationally recognized applicable standards for such devices and a combination temperature and pressure relief valve.

506.3 Electric Water Heaters. Electric water heaters shall be listed and labeled. Domestic electric water heaters shall comply with UL 174 or UL 1453. Commercial electric water heaters shall comply with UL 1453. Electric water heaters shall be installed as required by the terms of their approval, in accordance with the conditions of their listing, in accordance with the manufacturer's installation instruction, and this Code. Manufacturer's installation instructions shall be available on the job site at the time of inspection. water heaters shall be installed in accordance with the manufacturer's installation instructions and this Code.

Add Sections 506.4 through 506.8 to read as follows:

506.4 Solar Water Heaters. Solar water heaters shall comply with the requirements of Chapter 14 (Solar Systems) of the City of Saint Louis Mechanical Code. Solar water heaters shall be installed as required by the terms of their approval, in accordance with the conditions of their listing, in accordance with the manufacturer's installation instruction, Chapter 14 (Solar Systems) of the City of Saint Louis Mechanical Code, and this Code. Manufacturer's installation instructions shall be available on the job site at the time of inspection. All storage-type solar water heaters and hot water boilers shall be provided with, in addition to the primary temperature controls, an over-temperature safety protection device constructed, listed, labeled, and installed in accordance with nationally recognized applicable standards for such devices and a combination temperature and pressure relief valve.

506.5 Other Types of Water Heaters. Other types of water heaters and water preheaters shall comply with nationally recognized standards acceptable to the Authority Having Jurisdiction. All water heaters shall be installed as required by the terms of their approval, in accordance with the conditions of their listing, in accordance with the manufacturer's installation instruction, the City of Saint Louis Mechanical Code, where applicable, and this Code. Manufacturer's installation instructions shall be available on the job site at the time of inspection.

506.6 Hot Water Boilers. Hot water boilers shall be designed and constructed in accordance with the requirements of ASME CSD-1 and as applicable, the ASME Boiler and Pressure Vessel Code, Sections I, II, V, and IX; and NFPA 85. Hot water boilers shall be installed as required by the terms of their approval, in accordance with the conditions of their listing, in accordance with the manufacturer's installation instruction, the City of Saint Louis Mechanical Code, and this Code. Manufacturer's installation instructions shall be available on the job site at the time of inspection. Hot water boilers shall also be permitted by the City of Saint Louis Mechanical Section.

506.7 Hot Water Storage Tanks. Hot water storage tanks shall be listed and labeled and installed in accordance with the manufacturer's installation instructions, the City of Saint Louis Mechanical Code and this Code. All pressure vessels shall bear the

label of an approved agency. Welding on pressure vessels shall be performed by approved welders in compliance with the City of Saint Louis Mechanical Code. Pressurized tanks shall be permitted by the City of Saint Louis Mechanical Section.

506.8 Conflicts. Where conflicts between this code and the conditions of listing or the manufacturer's installation instructions occur, the provisions of this code shall apply.

Exception: Where a code provision is less restrictive than the conditions of the listing of the water heater or the manufacturer's installation instructions, the conditions of the listing and the manufacturer's installation instructions shall apply.

Change Section 508.1 to read as follows:

508.1 The use of approved dielectric insulators between the water piping connections of water heaters and related water heating equipment is required when they are constructed of dissimilar metals.

Change Section 508.4 to read as follows:

508.4 When a water heater is located in an attic, attic-ceiling assembly, floor-ceiling assembly, or floor-subfloor assembly, or furred space, or above the ground or basement level and does not have a floor drain available, where damage may result from a leaking water heater, a watertight safe pan of corrosion-resistant materials shall be installed beneath the water heater and shall be laid on or be supported by a structurally sound base to ensure proper drainage. The drain from the pan shall discharge to a non-concealed point of disposal to alert occupants in the event of a leak. The pan shall have a minimum depth of 2 inches (51 mm) and shall be of such shape and capacity as to prevent splashing or flooding, and shall be made water-tight. The pan shall not be less than 3 inches (76 mm) larger than the unit in width and length. Metallic pans shall have a minimum thickness of not less than 0.0276-inch (0.7 mm) galvanized sheet metal. Non-metallic pans shall have a minimum thickness of not less than 0.0625 inch (1.6 mm). Non-metallic safe pans shall be permitted to be used only with electric water heaters. Pan shall have a 1 inch (25.4 mm) minimum tapping and increase to a 1-1/4 inch (31.8 mm) diameter drain made of galvanized steel, copper, brass, PVC or CPVC which terminates and discharges through an air gap or air break into a properly trapped and vented, receptor, hub drain floor drain or floor drain with a funnel grate, or to an approved location. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope).

Delete Section 508.5.

Delete Section 508.8

Change Section 508.14 to read as follows:

508.14 Installation in Private Garages and Carports.

Add Sections 508.14.1 through 508.14.3 to read as follows:

508.14.1 Elevation of Ignition Source. Water heaters having an ignition source and located in private garages and carports shall be elevated such that the source of ignition is not less than 18 in. (457 mm) above the floor surface on which the water heater rests. For the purpose of this section, rooms or spaces that are not part of the living space of a dwelling unit and that communicate directly with a private garage through openings shall be considered to be part of the private garage.

Chapter 6 Water Supply and Distribution

Change Section 602.1 to read as follows:

602.1 No installation of potable water supply piping or part thereof shall be made in such a manner that it will be possible for used, unclean, polluted or contaminated water, mixtures or substances to enter any portion of such piping from any tank, receptacle, equipment, or plumbing fixture by reason of back siphonage, by suction or any other cause, either during normal use and operation thereof or when any such tank, receptacle, equipment, or plumbing fixture is flooded, or subject to pressure in excess of the operating pressure in the hot or cold water piping. A device or method which is suitable for isolating potable water from a potential pollutant may be unacceptable as a means of protection against contamination.

Change Section 603.1 to read as follows:

603.1 Approval of Devices or Assemblies. All devices or assemblies installed in a potable water supply system for protection against backflow shall be maintained in good working condition by the person or persons having control of such devices or assemblies. The Authority Having Jurisdiction or other department having jurisdiction may inspect such devices or assemblies and, if found to be defective or inoperable, shall require the repair or replacement thereof. No device or assembly shall be removed from use or relocated or other device or assembly substituted, without obtaining an approved permit. All devices or assemblies installed shall be a Missouri Department of Natural Resources approved device or assembly.

Change Section 603.3.1 to read as follows:

603.3.1 All assemblies shall conform to listed standards and be acceptable to the Authority Having Jurisdiction over the

selection and installation of backflow prevention assemblies. In addition to the standards for approval established elsewhere in this Code all reduced pressure principle backflow prevention assemblies and double check valve backflow prevention assemblies of any nature shall have the approval of the University of Southern California Foundation for Cross Connection Control and Hydraulic Research, and the Missouri Department of Natural Resources.

Change Table 6-2 to read as follows:

TABLE 6-2 Backflow Prevention Devices, Assemblies and Methods					
Device, Assembly or Method	Degree of Hazard				Installation ^{2,3,6,7}
	Pollution (Low Hazard)		Contamination (High Hazard)		
	Back- Siphonage	Back- Pressure	Back- Siphonage	Back- Pressure	
Airgap	X		X		See table in this chapter.
Atmospheric Vacuum Breaker	X		X		Upright position. No valves downstream. Minimum of six (6) inches (152 mm) or listed distance above all downstream piping and flood level rim of receptor. 4,5
Spill-Proof Pressure-Type Vacuum Breaker	X		X		Upright position. Minimum of six (6) inches (152 mm) or listed distance above all downstream piping and flood level rim or receptor. 5
Double Check Valve Backflow Preventer	X	X			Horizontal, unless otherwise listed. Requires one (1) foot (305 mm) minimum clearance at bottom for maintenance. May need platform/ladder for test and repair. Does not discharge water.
Pressure Vacuum Breaker	X		X		Upright position. May have valves downstream. Minimum of twelve (12) inches (305 mm) above all downstream piping and flood level rim of receptor. May discharge water.
Reduced Pressure Principle Backflow Preventer	X	X	X	X	Horizontal unless otherwise listed. Requires one (1) foot (305 mm) minimum clearance at bottom for maintenance. May need platform/ladder for test and repair. May discharge water.
1. See description of devices and assemblies in this chapter. 2. Installation in pit or vault requires previous approval by the Authority Having Jurisdiction. 3. Refer to general and specific requirements for installation. 4. Not to be subjected to operating pressure for more than 12 hours in any 24 hour period. 5. For deck-mounted and equipment-mounted vacuum breakers, see Section 603.4.16. 6. Maximum location above grade, floor or platform at center of device, shall be five (5') feet. 7. Must be approved as a Backflow by MoDNR.					

Change Section 603.3.4 to read as follows:

603.3.4 Access and clearance shall be provided for the required testing, maintenance, and repair. Access and clearance shall require a minimum of one (1) foot (305 mm) between the lowest portion of the assembly and grade, floor or platform. Installations elevated more than five (5) feet (1524 mm) above the floor or grade shall be provided with a permanent platform within five (5) feet below the device capable of supporting a tester or maintenance person.

Change Section 603.3.7 to read as follows:

603.3.7 Fixtures, appliances, or appurtenances with integral backflow preventers or integral airgaps manufactured as a unit shall be installed in accordance with their listing requirements and the manufacturer's instructions and as acceptable by the Authority Having Jurisdiction.

Change Section 603.4.6.1 to read as follows:

603.4.6.1 Potable water supplies to systems having no pumps or connections for pumping equipment, and no chemical injection or provisions for chemical injection, shall be protected from backflow by the following devices:

1. Reduced pressure backflow preventer

Change Section 603.4.6.3 to read as follows:

603.4.6.3 Where systems have a backflow device installed downstream from a potable water supply pump or a potable water supply pump connection, the device shall be the following:

1. Reduced pressure backflow preventer

Change Sections 603.4.8 through 603.4.11 to read as follows:

603.4.8 Faucets with pull out spouts shall be in compliance with the appropriate standards listed in Table 14.1 that include these specific types of faucets and require an atmospheric vacuum breaker or vent to atmosphere to protect the water supply.

603.4.9 Water cooled compressors, de-greasers or any other water cooled equipment shall be protected by a listed reduced pressure zone backflow preventer installed in accordance with the requirements of this chapter.

Note: Water cooled equipment which produces back-pressure shall be equipped with the appropriate protection.

603.4.10 Water inlets to water supplied aspirators shall be equipped with a listed atmospheric vacuum breaker with no downstream shutoff and mounted at least six (6) inches (152 mm) above the aspirator unit or equipped with a listed reduced pressure zone backflow preventer installed in accordance with its listing requirements and this chapter. The discharge shall drain through an air gap. When using the tailpiece of a fixture to receive the discharge of an aspirator, the air gap shall be located above the flood level rim of the fixture.

603.4.11 Potable water make up connections to steam or hot water boilers shall be provided with a listed reduced pressure zone backflow protection assembly.

Change Sections 603.4.14 and 603.4.15 to read as follows:

603.4.14 Water Treatment Units Reverse osmosis drinking water treatment units shall be provided with a listed reduced pressure zone backflow protection assembly and shall meet the requirements of the appropriate standard(s) referenced in Table 14.1. Waste or discharge from reverse osmosis or other types of water treatment units shall enter the drainage system through an air gap.

603.4.15 Installation of Backflow Preventers.

- A. No person except those qualified, licensed and/or registered and bonded under this Code shall install a backflow prevention device.
- B. A permit is required for the installation of all reduced pressure principle backflow prevention devices and double check valve assembly backflow prevention devices. Permits shall be issued and inspections performed by the Section of Plumbing Regulations and Inspections of the Building Division. Permits shall be issued only to those contractors who are licensed and/or registered and bonded under this Code.
- C. All backflow prevention devices shall be accessible. Backflow prevention devices shall not be installed in pits or similar potentially submerged locations or in fume, chemical or fuel hoods, or in any area containing fumes that are toxic, poisonous or corrosive.
- D. Atmospheric vacuum breakers shall be installed with the critical level at least six (6) inches above the flood level rim or highest point of discharge of the fixture being served. Such devices shall be installed on the discharge side of the last control valve to the fixture and no shut off valve or faucet shall be installed downstream of the vacuum breaker. Vacuum breakers on urinals shall be installed with the critical level six (6) inches above the flood level rim.
- E. Pressure type vacuum breakers shall be installed at a height of at least twelve (12) inches above the flood level rim of the fixture, tank, or similar device.
- F. Double check valves and reduced pressure principle valves such devices shall be installed at not less than twelve (12) inches above grade, floor or platform with the maximum of sixty (60) inches above

grade, floor or platform. They shall not be installed within access panels, over any machinery or equipment, or in any location which might create a safety hazard to those employed in testing and maintenance of these devices.

- G. Installation shall meet Missouri Department of Natural Resources Regulations and City of Saint Louis ordinance. Where a conflict occurs between this chapter and Missouri Department of Natural Resources, the most stringent requirement shall apply.

Change Section 603.4.17 to read as follows:

603.4.17 Faucets with hose attached sprays shall vent to atmosphere under back siphonage conditions.

Change Section 603.4.18.5 to read as follows:

603.4.18.5 Residential Sprinkler Systems. When residential fire sprinkler systems are installed using the potable water system they shall be installed in accordance with the standards listed in Table 14 1. When the residential sprinkler system is a separate fire system, a double check backflow device shall be installed. When a combined system is used all parts must be part of a circulating system, and must meet the requirements of this chapter for potable water.

Change Sections 603.4.20 and 603.4.21 to read as follows:

603.4.20 Portable cleaning equipment, dental vacuum pumps and chemical dispensers shall be protected from backflow by an air gap or a reduced pressure principle backflow preventer.

603.4.21 Water Heater Connectors. Flexible metallic water heater connectors or reinforced flexible water heater connectors connecting water heaters to the piping system shall be in compliance with the appropriate standards listed in Table 14-1.

That portion of the gas line supplying the water heater that includes the gas shutoff valve, the gas union, the drip leg, the pressure regulator, if required, and the tee shall be hard piped and shall be independently and securely supported. It shall not be supported or attached to the water heater.

Change Sections 604.1 and 604.2 to read as follows:

604.1 Water distribution pipe, water pipe and fittings, either inside or outside the building, shall be of brass, copper, cement lined cast/ductile iron, galvanized malleable iron, galvanized wrought iron, galvanized steel, or other approved materials. Cast/ductile iron fittings used for water need not be galvanized if over two (2) inches (51 mm) in size but shall be cement lined.

PVC water pipe, minimum Class 160, manufactured to recognized standards may be used for cold water distribution systems outside a building.

PEX and CPVC water pipe and tubing may be used for hot and cold water distribution systems above ground 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 Authority Having Jurisdiction.

Exception: When plastic pipe is being installed in construction of the water service pipe, the plastic pipe shall terminate ten (10) feet outside the building foundation wall. The metallic pipe allowed by this section shall be installed from ten (10) feet outside the foundation to and within the building to the outlet of the house valve or the outlet of the PRV whichever is further from the entrance to the building. Protection from electrolysis (corrosion) shall be provided.

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.

Change Section 604.4 to read as follows:

604.4 Listed flexible copper water connectors approved by the Authority Having Jurisdiction shall be installed in exposed locations, unless otherwise listed.

Change Section 604.8 to read as follows:

604.8 Approved plastic materials may be used in water service piping, provided that where metal water service piping is used for electrical grounding purposes, replacement piping therefore shall be of like materials.

Exception: Where a grounding system, acceptable to the Authority Having Jurisdiction is installed, inspected, and an approved ten (10) feet of metallic pipe may be replaced with non metallic pipe.

Change Section 604.12 to read as follows:

604.12 Flexible Corrugated Connectors. Flexible corrugated connectors of copper or stainless steel shall be limited to the following connector lengths:

Water Heater Connectors - twenty four (24) inches (609 mm).
Fixture Connectors - thirty (30) inches (762 mm).
Washing Machine Connectors - seventy-two (72) inches (1827 mm).
Dishwasher and Icemaker Connectors - one hundred twenty (120) inches (3048 mm).

Delete Section 604.13

Delete Section 604.13.1

Delete Section 604.13.2

Change Section 605.2 to read as follows:

605.2 A full way valve and drain on the house side controlling all outlets shall be installed on the service entrance. Water piping supplying more than one building on any one premises shall be equipped with a separate full way valve and drain on the house side to each building, so arranged that the water supply can be turned on or off to any individual or separate building; provided however, that supply piping to a single family residence and building accessory thereto, may be controlled on one valve. Such shutoff valves shall be accessible at all times. A full way valve shall be installed on the discharge piping from water supply tanks at or near the tank. A full way valve shall be installed on the cold water supply pipe to each water heater at or near the water heater.

Change Section 605.5 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 non metallic fixture supply or appliance supply. A control valve shall be installed for sill cocks, wall hydrants, yard hydrants, street washers, and lawn irrigation systems in addition to required backflow assemblies.

Parallel water distribution systems shall provide a control valve either immediately ahead of each fixture being supplied, or installed at the manifold and shall be identified with the fixture being supplied.

Change Section 608.2 to read as follows:

608.2 Excessive Water Pressure. Where local static water pressure is in excess of eighty (80) pounds per square inch (552 kPa), an approved type pressure regulator preceded by an adequate strainer shall be installed and the static pressure reduced to eighty (80) pounds per square inch (552 kPa) or less. For potable water services up to and including one and one-half (1-1/2) inch (40 mm) regulators, provision shall be made to prevent pressure on the building side of the regulator from exceeding main supply pressure.

Exception: *Where the water service pipe supplies water directly to a water pressure booster system, and elevated water gravity tank, or to pumps provided in connection with a hydro-pneumatic or elevated water supply tank system a pressure-reducing valve is not required.*

Pressure at any fixture shall be limited to no more than eighty (80) psi under no-flow conditions. Sill cocks and outside hydrants may be left on full main pressure at the option of the owner.

Approved regulators with integral bypasses shall be acceptable. Each such regulator and strainer shall be accessibly located and shall have the strainer readily accessible for cleaning without removing the regulator or strainer body or disconnecting the supply piping. All pipe size determinations shall be based on eighty (80) percent of the reduced pressure when using Table 6-5.

Change Section 608.5 to read as follows:

608.5 Relief valves located inside a building shall be provided with a drain, not smaller than the relief valve outlet, of galvanized steel, and hard drawn copper piping and fittings, 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 with the end of the pipe not more than six (6) inches (152 mm) nor less than 2 diameters 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 drainpipe shall be trapped and the terminal end of the drainpipe shall not be threaded.

Change Section 609.1 and 609.2 to read as follows:

609.1 Installation. All water piping shall be adequately supported in accordance with Section 314.0. 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. Provisions shall be made for expansion in hot water piping. All piping, equipment, appurtenances, and devices shall be installed in a workmanlike manner in conformity with the provisions and

intent of the Code. All potable water service yard piping shall be a depth of at least forty two (42") inches (107 mm) below finish grade.

609.2 Separation of Water Service and Building Sewer. Except as permitted below, the underground water service pipe and the building sewer shall be not less than ten (10) feet apart horizontally and shall be separated by undisturbed or compacted earth.

The water service pipe may be placed in the same trench with the building sewer, and water piping may be placed in the same trench as the building drain within the limits of the building foundation, provided approval is given by the Authority Having Jurisdiction and the following conditions are met:

Change Section 609.3.1 to read as follows:

609.3.1 Ferrous piping shall have a protective coating of an approved type, machine applied and conforming to recognized standards. Field wrapping shall provide equivalent protection and shall be restricted to those short sections and fittings necessarily stripped for threading. Zinc coating (galvanizing) shall not be deemed adequate protection for piping or fittings.

Change Section 609.4 and 609.5 to read as follows:

609.4 Testing. Upon completion of a section of the hot and cold water supply system, prior to being covered, it shall be tested and proved tight under water pressure not less than the working pressure under which it is to be used or eighty (80) pounds per square inch whichever is greater. The water used for tests shall be obtained from a potable source of supply. A one hundred (100) pound per square inch (689.5 kPa) air pressure may be substituted for the water test. For plastic pipe, testing by compressed gas or air pressure is prohibited. In either method of test, the piping shall withstand the test without leaking for a period of not less than fifteen (15) minutes.

609.5 Unions. Unions shall be installed in exposed locations in the water supply piping within twelve (12) inches (305 mm) of regulating equipment, water heating, conditioning tanks, and similar equipment which may require service by removal or replacement in a manner which will facilitate its ready removal.

Change Section 609.10 to read as follows:

609.10 Water Hammer. All building supply systems shall be provided with mechanical devices, minimum size shall be three quarter (3/4) inch, to absorb water hammer. These pressure absorbing devices shall be an approved mechanical device size "AA" through "F". Mechanical devices to absorb water hammer shall be installed on the hot and cold water lines at each fixture or fixture group. Where applications require the installation of a mechanical shock arrester larger than size "F", data shall be submitted to provide such a device. In addition, where a lawn irrigation system is installed, a mechanical water hammer arrester shall be installed on the supply line to the irrigation system.

Exception: For Use Group R 2, three floors or less, and Use Group R 4 in order to absorb water hammer a mechanical water hammer arrester shall be installed on both the hot and cold water lines at the top of the most remote riser from the water service entrance.

Water hammer caused by high pressure, resulting from the quick closing of quick acting valves, shall be provided with mechanical devices to absorb water hammer and shall be installed as close as possible to these valves. Included in these devices that include quick acting valves are water lines serving washing machines, dishwashers, and tub/shower valves.

Exception: Where the water hammer arrester serves a single fixture which has a supply less than 3/4 inch, the water hammer arrester may be of a smaller size than 3/4 inch which meets the manufacturer's recommendation for the fixture served.

Delete Section 609.10.1

Delete Table 6-6

Change Section 609.10.2 to read as follows:

609.10.2 Mechanical Devices. When listed mechanical devices are used the manufacturer's specifications as to location and method of installation shall be followed. Mechanical devices, which meet ASSE 1010 or PDI WH 201 standards (see Chapter 14), do not need to be accessible.

Change Section 610.1 to read as follows:

610.1 The size of each water meter shall be as determined by the water purveyor. Each potable water supply pipe from the meter or other source of supply to the fixture supply branches, risers, fixtures, connections, outlets, or other uses shall be based on the total demand and shall be determined according to the methods and procedures outlined in this section. Other than systems sized by the use of Table 6 5, the system shall be designed to assure that the maximum velocities allowed by the Code and the applicable standard are not exceeded.

Change Section 610.7 through 610.9 to read as follows:

610.7 On any proposed water piping installation sized using Table 6 5 the following conditions shall be determined:

- (1) Developed length of supply pipe from the property line to most remote location.
- (2) Difference in elevation between the property line or other source of supply and the highest fixture or outlet.

610.8 Size of Building Supply Pipe Using Table 6 5. The size of the building supply pipe and the building branch piping shall be determined as follows:

TABLE 6 5 In the title line, delete "and Meter Sizes". Column in Table 6-5 titled "Meter and Street Service, Inches" is deleted.

- (1) Determine the available pressure at the water meter or other source of supply;
- (2) Subtract one half (1/2) pound per square inch pressure (3.4 kPa) for each foot (305 mm) of difference in elevation between such source of supply and highest water supply outlet in the building or on the premises;
- (3) Use the "pressure range" group within which this pressure will fall using Table 6 5;
- (4) Select the "length" column which is equal to or longer than the required length;
- (5) Follow down the column to a fixture unit value equal to or greater than the fixture unit value for the required length;
- (6) Having located the proper fixture unit value for the required length, size of building supply pipe and the building branch piping as found in the left hand column titled "Building Supply and Branches, Inches" shall be applied. No building supply pipe shall be less than one (1) inch (25.4 mm) in diameter. For light commercial strip centers, when the water service serves more than one tenant space, a one and one-half (1-1/2) inch minimum size water service shall be provided to the most remote tenant space.

610.9 When Table 6 5 is used, the minimum size of each branch shall be determined by the number of fixture units to be served by that branch, the total developed length of the system, and the street service size, minimum one (1) inch (25.4 mm) in diameter as per Section 610.8. No branch piping is required to be larger in size than that required by Table 6-5 for the building supply pip

Chapter 7 Sanitary Drainage

Add Section 703.1.1 to read as follows:

703.1.1 Exceptions.

- (1) Any portion of the building drain which is underground and which receives the discharge from a water closet shall be a minimum size of four (4) inches and the four (4) inch pipe size shall terminate at the clean-out thirty-six (36) inches above the finish floor. The minimum size of any other portion of the drainage system, which receives the discharge from a water closet, shall be a minimum size of three (3) inches.
- (2) Minimum size of the building sewer shall be six (6) inches in diameter and shall have the minimum of a two percent (2%) slope.
- (3) No soil or waste stack shall be smaller than the largest horizontal branch connected thereto. A 3" x 4" water closet bend shall not be considered a reduction in pipe size.
- (4) Any structure in which a building drain is installed shall have at least one stack vent or vent stack sized in accordance with section 12.16.6, not less than three (3) inches in diameter, or the size of the building drain. If the building drain is less than three (3) inches in diameter, the vent shall be carried full size through the roof.
- (5) Any vent pipe extending through the roof shall be not less than two (2) inches in diameter and shall extend from its terminus at least eighteen (18) inches below the interior side of the roof deck.
- (6) No portion of the drainage system installed underground or below a basement or cellar shall be less than two (2) inches in diameter with the exception of condensate waste discharge lines which shall not be less than one and one-quarter (1-1/4) inches in diameter.
- (7) The maximum length of two (2) inch underground kitchen sink waste piping shall not exceed fifteen (15) feet from the point of connection to a horizontal branch drain or building drain to the point where the kitchen sink waste piping extends above the floor. The clean out above the floor shall be the same size as the underground kitchen sink waste piping and shall be thirty-six (36) inches above the finished floor level.

Add Section 705.2.5 to read as follows:

705.2.5 Joints of dissimilar materials used in the system shall be designed for that purpose and used in accordance with their approvals. When such joints are used inside a building they shall include a metallic shield.

Change Section 706.4 to read as follows:

706.4 Vertical drainage lines connecting with horizontal drainage lines shall enter through forty-five (45) degree (0.79 rad) wye branches, combination wye and one-eighth (1/8) bend branches, short radius or long radius ninety (90) degree (1.58 rad) sweeps or other approved fittings of equivalent sweep. Sixty (60) degree (1.05 rad) branches or offsets may be used only when installed in a true vertical position.

Add Section 707.4.1 and 707.4.2 to read as follows:

707.4.1

- a.) A cleanout shall be provided in the vertical waste or soil stack, at a minimum of three (3) feet above the floor.

Exception: In residential buildings of slab floor construction or where a stack cleanout is not accessible, the cleanout shall be installed in the building drain and shall terminate not more than five (5) feet outside the building wall.

- b.) Rain leaders and conductors connected to a building storm sewer shall have a cleanout installed three (3) feet above finished floor for each inside conductor and at the base of each outside leader or before it connects to the horizontal drain.

707.4.2 Each horizontal drainage pipe shall be provided with a cleanout at its upper terminal and each run of piping, which is more than one hundred (100) feet (30480 mm) in total developed length, shall be provided with a cleanout for each one hundred (100) feet (30480 mm), or fraction thereof, in length of such piping.

Exceptions:

- (1) Cleanouts may be omitted on a horizontal drain line less than five (5) feet (1524 mm) in length unless such line is serving sinks or urinals.
- (2) Cleanouts may be omitted on any horizontal drainage pipe installed on a slope of seventy-two (72) degrees (1.26 rad) or less from the vertical angle (angle of one-fifth (1/5) bend).
- (3) Excepting the building drain and its horizontal branches, a cleanout shall not be required on any pipe or piping, which is above the first floor of the building.
- (4) An approved type of two-way cleanout fitting, installed inside the building wall near the connection between the building drain and building sewer or installed outside of a building at the lower end of a building drain and extended to grade, may be substituted for an upper terminal cleanout in residential buildings only.

Change Section 707.5 and 710.6 to read as follows:

707.5 An additional cleanout shall be provided in a drainage line for each aggregate horizontal change of direction exceeding one hundred and thirty-five (135) degrees (2.36 rad) calculated in the direction of flow.

710.6 Backwater valves, gate valves, unions, full-way ball valves, motors, compressors, air tanks, and other mechanical devices required by this section shall be located where they will be accessible for inspection and repair at all times and, unless continuously exposed, shall be enclosed in a masonry pit, or a pit of approved material and manufacture, fitted with an adequately sized removable cover.

Backwater valves shall have bodies of cast iron, brass, or other materials, non-corrosive bearings, seats and self-aligning discs, and shall be so constructed as to insure a positive mechanical seal and to remain closed, except when discharging wastes. Such valves shall remain sufficiently open during periods of low flows to avoid screening of solids and shall not restrict capacities or cause excessive turbulence during peak loads. Unless otherwise listed, valve access covers shall be bolted type with gasket and each valve shall bear the manufacturer's name cast into body and cover.

Add Section 710.15 to read as follows:

710.15 At stream and channel crossings, a minimum depth of two (2) feet shall be allowed only where greater depths cannot be achieved. Where this minimum cover cannot be achieved, Schedule 50 ductile iron pipe with restrained joints must be used unless otherwise directed by the Authority Having Jurisdiction. Stream and channel crossings must be protected with grouted rock blanket.

Add Section 711.1.1 to read as follows:

711.1.1 Suds Pressure Zones and Suds Relief Vents. Where required. Where kitchen sinks, laundry trays, laundry washing machines, and similar fixtures in which sudsy detergents are normally used, discharge at an upper level into a soil or waste stack which also serves fixtures in other occupancy units at a lower floor level, the drainage and vent piping for such lower fixtures shall be arranged so as to avoid connection to suds pressure zones in the sanitary drainage and vent systems, or a suds relief vent, relieving to a non-pressure zone, shall be provided at each suds pressure zone where such connections are installed. In multistory buildings, with more than six (6) branch intervals of fixtures described above, separate waste and vent stacks for the lower four (4) branch intervals of fixtures shall be required. See Table 7-9.

Suds Pressure Zones. Such pressure zones shall be considered to exist at the following locations in sanitary drainage and vent systems as indicated in Table 7-10. See figure 31, Appendix M (Code Illustrations).

Zone 1. In a soil or waste stack, which serves fixtures on two (2) or more floors and receives wastes from fixtures wherein sudsy detergents are used, a zone shall be considered to exist in the vertical portion upstream of an offset fitting in the riser to the upper section of the system, in the horizontal portion downstream of this fitting, and in the horizontal portion upstream of the offset immediately preceding the next offset fitting. See Table 7-9.

Zone 2. In a soil or waste stack, which serves fixtures on two (2) or more floors and receives wastes from fixtures wherein sudsy detergents are used, a zone shall be considered to exist at the base of the stack and extending upstream. See Table 7-10.

Zone 3. In a soil or waste system, which serves fixtures on two (2) or more floors and receives wastes from fixtures wherein sudsy detergents are used, a zone shall be considered to exist downstream in the horizontal drain from the base of the stack and both upstream and downstream of the next offset fitting downstream.

Zone 4. In a soil or waste system, which serves fixtures on two (2) or more floors and receives wastes from fixtures wherein sudsy detergents are used, a zone shall be considered to exist in the vent stack extending upstream from the point of connection to the base of the soil or waste stack.

Add Table 7-9 and 7-10 as follows:

TABLE 7-9 SUDS PRESSURE RELIEF VENTS	
Waste Size	Relief Vent Size
1-1/2"	2"
2"	2"
2-1/2"	2"
3"	2"
4"	3"
5"	4"
6"	5"
8"	6"

TABLE 7-10* EXTENT OF SUDS PRESSURE ZONES FOR VARIOUS SIZE SOIL AND WASTE PIPING Extent of Zone (Measured from Fittings)		
Stack Size	"U"	"D"
1-1/2"	5'-0"	1'-6"
2"	7'-0"	1'-6"
2-1/2"	8'-0"	2'-0"
3"	10'-0"	2'-6"
4"	13'-0"	3'-6"
5"	17'-0"	4'-0"
6"	20'-0"	5'-0"

* For use with Figure 31 of Appendix M (Code Illustrations).

Change Section 712.3 to read as follows:

712.3 Air Test. The air test shall be made by attaching an air compressor testing apparatus to any suitable opening, and, after closing all other inlets and outlets to the system, forcing air into the system until there is a uniform gage pressure of five (5) pounds per square inch (34.5 kPa) or sufficient to balance a column of mercury ten (10) inches (254 mm) in height. The pressure shall be held without introduction of additional air for a period of at least fifteen (15) minutes. For plastic pipe, testing by compressed gas or air pressure is prohibited.

Change Sections 713.1 and 713.2 to read as follows:

713.1 Every building in which plumbing fixtures are installed and every premises having drainage piping thereon, shall have a connection to a public sewer or private sewer.

713.2 House/building traps (vent traps). A house/building (vent) trap shall be installed on individual and combined, sanitary and storm house sewer laterals connected to the public sewer system. See Section 1008.0.

Delete Section 713.3

Delete Section 713.4

Delete Section 713.5

Change Section 713.6 to read as follows:

713.6 On every lot or premises hereafter connected to a public sewer, all plumbing and drainage systems or parts thereof on such lot or premises shall be connected with such public sewer.

Change Section 714.1 to read as follows:

714.1 It shall be unlawful for any person to deposit, by any means whatsoever, into any plumbing fixture, floor drain, interceptor, sump, receptor, or device which is connected to any drainage system or public sewer or private sewer, any ashes, cinders, solids, rags, flammable, poisonous, or explosive liquids or gases, oils, grease, and any other thing whatsoever which would or could cause damage to the public sewer or private sewer system.

Delete Section 714.2

Delete Section 714.3

Delete Section 714.4

Change Section 715.1 to read as follows:

715.1 The building sewer, beginning five (5) feet (1525 mm) from any building or structure, shall be of such materials as may be approved by the Authority Having Jurisdiction under the approval procedures set forth in Chapter 3 of this Code. Sewer laterals exceeding one hundred (100) feet shall include a full size cleanout; maximum size shall be eight (8) inches, to surface within ten (10) feet of anticipated location of the building foundation wall or the first story exterior wall of a slab on grade building.

Change Section 717.0 to read as follows:

717.0 Size of Building Sewers

The minimum size of any building sewer shall be determined on the basis of the total number of fixture units drained by such sewer, in accordance with Table 7-8. No building sewer shall be smaller than the building drain, but in no case less than six (6) inches (152 mm) and at a uniform minimum slope of two percent (2%).

Change Section 718.3 to read as follows:

718.3 No building sewer or other drainage piping or part thereof, which is constructed of materials other than those approved for use under or within a building, shall be installed under or within five (5) feet (1525 mm) of any building or structure, or part thereof, nor less than thirty (30) inches below the surface of the ground.

Exception: Where necessary to connect to a drainage line above ground.

The provisions of this subsection include structures such as porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances.

Change Section 719.6 to read as follows:

719.6 Approved manholes may be installed in lieu of cleanouts when first approved by the Authority Having Jurisdiction. The maximum distance between manholes shall not exceed four hundred (400) feet (121.9 m). Connections to manholes shall be by approved method.

Change Section 720.0 to read as follows:

720.0 Sewers and Water Pipes

Building sewers or drainage piping of clay or materials, which are not approved for use within a building, shall not be run or laid in the same trench as the water pipes.

The water service pipe may be placed in the same trench with the building sewer and water piping may be placed in the same trench with the building drain provided approval is given by the Authority Having Jurisdiction and both the following requirements are met:

- a. The bottom of the water pipe, at all points, shall be at least twelve (12) inches (305 mm) above the top of the sewer or drain line.
- b. 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 (305 mm) from the sewer or drain line.

Water pipes crossing sewer or drainage piping constructed of clay or materials, which are not approve for use within a building, shall be laid a minimum of twelve (12) inches (305 mm) above the sewer or drainpipe.

Note: For the purpose of this section, "within the building" shall mean within the fixed limits of the building foundation.

Change Section 722.1 and 722.2 to read as follows:

722.1 Every abandoned building (house) sewer, or part thereof, shall be plugged or capped in an approved manner at the connection to the sewer main or at a location acceptable to the Authority Having Jurisdiction.

722.2 Every cesspool, septic tank, and seepage pit which has been abandoned or has been discontinued otherwise from further use or to which no waste or soil pipe from a plumbing fixture is connected, shall have the sewage removed there from and disposed of in a manner required by law, the bottom broken out and be completely filled with compacted earth, sand, gravel, concrete, or other approved material.

Change Section 723.0 to read as follows:

723.0

Building sewers shall be tested by plugging the end of the building sewer at its points of connection with the public sewer and completely filling the building sewer with water from the lowest point to the highest point thereof, or by a method approved by the Authority Having Jurisdiction. The building sewer shall be watertight at all points.

**TABLE 7-7
MINIMUM HORIZONTAL DISTANCE REQUIRED FROM BUILDING SEWER**

Building or structures ¹	2 feet (610 mm)
Property line adjoining private property	Clear 2
Water supply wells	100 feet 3 (30,480 mm)
Streams	50 feet (15,240 mm)
On-site domestic water line	10 feet 4 (3048 mm)
Public water main	10 feet 5, 6 (3048 mm)

Notes:

- 1. Including porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures and appurtenances.
- 2. See also Section 313.3.
- 3. All drainage piping shall clear domestic water supply wells by at least one hundred (100) feet (30480 mm).
- 4. See Section 609.2
- 5. For parallel construction.
- 6. For crossings, approval by the Health Department or Authority Having Jurisdiction shall be required.

Chapter 8 Indirect Wastes

Change Section 801.2.3 to read as follows:

801.2.3 Food preparation sinks, steam kettles, potato peelers, ice cream dipper wells, dishwashing machines, silverware washing machines, and similar equipment shall be indirectly connected to the drainage system by means of an air gap or air break. Bins, sinks, and other equipment having drainage connections and used for the storage of unpackaged ice used for human ingestion, or used in direct contact with ready to eat food, shall be indirectly connected to the drainage by means of an airgap. Each indirect waste pipe from food handling fixtures or equipment shall be separately piped to the indirect

waste receptor and shall not combine with other indirect waste. The piping from the equipment to the receptor shall not be smaller than the drain on the unit, but it shall not be smaller than one (1") inch (25.4 mm).

Change Section 803.0 to read as follows:

803.0 Indirect Waste Piping. Except as hereinafter provided, the size and construction of indirect waste piping shall be in accordance with other sections of this Code applicable to drainage and vent piping. No vent from indirect waste piping shall combine with any sewer connected vent, but shall extend separately to the outside air. Indirect waste pipes exceeding five (5) feet (1524 mm), but less than fifteen (15) feet (4572 mm) in length shall be directly trapped, but such traps need not be vented.

Indirect waste pipes less than fifteen (15) feet (4572 mm) in length shall not be less than the diameter of the drain outlet or tailpiece of the fixture, appliance, or equipment served, and in no case less than one half (1/2) inch (15 mm) in size. Angles and changes of direction in the indirect waste pipes of more than fifteen (15) feet shall be provided with cleanouts so as to permit flushing and cleaning.

- a. A direct connection for a floor drain at the automatic clothes washer above ground may be discharged into the riser pipe (standpipe) above the trap of the automatic clothes washer drain and the floor drain need not be trapped.
- b. A laundry sink on ground floor may discharge directly into the washer standpipe above the trap with no vent required.

Change Section 804.1 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 thirty (30) inches (762 mm) or less than eighteen (18) inches (457 mm) 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 standpipes for clothes washers may be installed in toilet and bathroom areas when the clothes washer is installed in the same room.

Change Section 807.4 to read as follows:

807.4 The discharge from a sink, dishwasher, and garbage disposal (food waste grinder) may discharge through a single one and one half (1 1/2) inch trap. The discharge from the dishwasher shall be a full sized opening, which shall be a minimum of five eighths (5/8) inch inside diameter in size, looped up and firmly secured to the highest point under the counter and be connected with a wye fitting between the discharge of the garbage disposal (food waste grinder) and the trap inlet, or to the head of the garbage disposal (food waste grinder). An approved dishwasher air gap fitting on the discharge side of the dishwashing machine may be used. Listed air gaps shall be installed with the flood level (FL) marking at or above the flood level of the sink or drain board, whichever is higher. In the installation of a double bowl kitchen sink (residential) with a garbage disposal (food waste grinder), the fixture trap shall be installed on the same side of the sink in which the garbage disposal is installed.

Change Section 809.0 to read as follows:

809.0 Drinking Fountains. Drinking fountains may be installed with indirect wastes into sanitary drainage piping.

Delete Section 811.8

Change Table 8-2 to read as follows:

TABLE 8 2 Minimum Condensate Pipe Size			
Equipment Capacity in Tons of Refrigeration (kW)		Minimum Condensate Pipe Diameter in Inches (mm)	
Up to 5	(Up to 70.34)	3/4	(20)
6 to 40	73.85 - 140.67)	1	(25)
41 to 90	(144.19 to 316.6)	1-1/4	(32)
91 to 125	(320.4 to 439.6)	1-1/2	(40)
126 to 250	(443.12 to 879.2)	2	(50)

Chapter 9 Vents

Change Section 902.2 to read as follows:

902.2 Traps serving sinks which are part of the equipment of bars and soda fountains need not be vented when the location and construction of such bars and soda fountains is such as to make it impossible to do so. When such conditions exist, said sinks shall

discharge by means of approved indirect waste pipes into a floor sink or other approved type receptor.

Add Section 904.3 as follows:

904.3 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 sized in accordance with Table 7 5 not less than three inches (3) in diameter, or the size of the building drain. If the building drain is less than three inches (3) in diameter the vent shall be carried full size through the roof.

Change Section 905.1 to read as follows:

905.1 All vent and branch vent pipes shall be free from drops or sags and shall be installed under the same requirements as provided for in this Code for gravity systems and each such vent shall be so graded and connected as to drip back by gravity to the drainage pipe it serves.

Change Section 906.1 to read as follows:

906.1 Each vent pipe or stack shall extend through its flashing and shall terminate vertically not less than twelve (12) inches (305 mm) above the roof nor less than one (1) foot (305 mm) from any vertical surface.

Change Section 906.3 to read as follows:

906.3 Vent pipes shall be extended separately or combined, of full required size, not less than twelve (12) inches (305 mm) above the roof or fire wall. Flagpoling of vents shall be prohibited. All vents within ten (10) feet (3048 mm) of any part of the roof that is used for purposes other than weather protection shall extend not less than seven (7) feet (2134 mm) above such roof and shall be securely stayed.

Change Section 906.7 to read as follows:

906.7 Frost or Snow Closure. Vent terminals shall be a minimum of two (2) inches (51 mm) in diameter but in no event smaller than the required vent pipe. The change in diameter shall be made inside the building at least eighteen (18) inches below the roof in an insulated space and terminate not less than twelve (12) inches (305 mm) above the roof, or as required by the Authority Having Jurisdiction.

Change Section 907.1 to read as follows:

907.1 Each drainage stack which extends ten (10) or more stories above the building drain or other horizontal drain, shall be served by a parallel vent stack which shall extend undiminished in size from its upper most terminal and connect to the drainage stack at or immediately below the lowest fixture drain. Each such vent stack shall also be connected to the drainage stack at each fifth floor, counting down from the uppermost horizontal fixture branch connection by means of a yoke vent, the size of which shall not be less in diameter than either the drainage or the vent stack, whichever is smaller.

Add Section 907.3 to read as follows:

907.3 In a residential structure a relief vent shall be connected to a waste stack a minimum of six (6) inches (152 mm) below the bottom of the joist at the lowest level.

Change Section 908.1 to read as follows:

908.1 Except as provided for in other sections of this Code, wet venting is limited to vertical drainage piping receiving the discharge from the trap arm of one (1) and two (2) fixture unit fixtures that also serves as a vent not to exceed four (4) fixtures. All wet vented fixtures shall be within the same story; provided, further, that fixtures with a continuous vent discharging into a wet vent shall be within the same story as the wet vented fixtures. No wet vent shall exceed six (6) feet (1829 mm) in developed length.

Change Section 909.0 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, and no lower than bottom of sink/fixture it serves and then returning it downward and connecting it to the horizontal sink drain more than five (5) feet (1524 mm) downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye branch fitting. Drainage fittings shall be used on all parts of the vent and a minimum slope of one quarter (1/4) inch per foot (20.9 mm/m) 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 (0.79 rad), a ninety (90) degree (1.6 rad) and a forty five (45) degree (0.79 rad) elbow in the order named. Pipe sizing shall be as elsewhere required in this Code with minimum size to be two (2) inch (51 mm). The island sink drain, upstream of the return vent, shall serve no other fixtures. An accessible cleanout shall be installed

Chapter 10 Traps and Interceptors

Change Section 1001.2 to read as follows:

1001.2 It is provided, however, that one (1) trap may serve a set of not more than three (3) single compartment sinks or laundry tubs of the same depth or three (3) lavatories immediately adjacent to each other and in the same room if the waste outlets are not more than thirty (30) inches (762 mm) apart.

Change Table 10-1 to read as follows:

Trap Arm Inches	Distance Trap to Vent Feet Inches	Trap Arm mm	Distance Trap to Vent mm
1-1/4	3' - 6"	32	1067
1-1/2	5' - 0"	38	1524
2	8' - 0"	51	2438
3	10' - 0"	76	3048
4 & Larger	12' - 0"	102 & Larger	3658

Slope one fourth (1/4) inch per foot (20.9 mm/m)

*The developed length between the trap of a water closet or similar fixture (measured from the top of the closet ring [closet flange] to the inner edge of the vent) and its vent shall not exceed six (6) feet (1829 mm).

Change Section 1003.1 through 1003.3 to read as follows:

1003.1 Each trap, except one from an interceptor or similar device shall be self cleaning. Traps for bathtubs, showers, lavatories, sinks, laundry tubs, floor drains, hoppers, urinals, drinking fountains, dental units, and similar fixtures shall be of standard design and weight and shall be of ABS, cast brass, cast iron, lead, PVC, or other approved material. An exposed and readily accessible drawn brass tubing trap, not less than 17 B&S Gauge (0.045 inch) (1.1 mm), may be used on fixtures discharging domestic sewage.

Exception: Drawn brass tubing traps shall not be used for urinals. Each trap shall have the manufacturer's name stamped legibly in the metal of the trap and each tubing trap shall have the gauge of the tubing in addition to the manufacturer's name. Every trap shall have a smooth and uniform interior waterway.

1003.2 No more than one (1) approved slip joint fitting may be used on the outlet side of a trap, and no tubing trap shall be installed without a listed tubing trap adapter or a soldered or brazed joint connection.

1003.3 The size (nominal diameter) of a trap for a given fixture shall be sufficient to drain the fixture rapidly but in no case less than more than one (1) pipe size larger than given in Table 7 3. The trap shall be the same size as the trap arm to which it is connected.

Change Section 1008.0 to read as follows:

1008.0 House/Building Traps.

A house/building (vent) trap shall be installed on individual and combined, sanitary and storm house sewer laterals connected to the public sewer system. Each house/building trap shall be provided with a cleanout and with a relieving vent or fresh air intake on the inlet side of the trap which need not be larger than one half the diameter of the drain to which it connects. Such relieving vent or fresh air intake shall be carried above grade and terminate in a screened outlet located outside the building.

Change Section 1009.1 to read as follows:

1009.1 When required. Interceptors (clarifiers) (including grease, oil, and sand interceptors (clarifiers), etc.) Shall be provided, in the judgment of the Authority Having Jurisdiction, when they are necessary for the proper handling of liquid wastes containing grease, flammable wastes, sand, solids, acid or alkaline substances, or other ingredients harmful to the building drainage system, the public or private sewer or to public sewage disposal. Sand interceptors shall be required where a floor drain or multiple floor drains discharge(s) through an oil interceptor, or where the discharge of a floor drain may contain solids or semi solids that would be harmful to or tend to obstruct the system. A sand interceptor shall have a vent installed in front of the gas/oil interceptor. Human waste is prohibited from entering an interceptor(s).

Add Section 1014.2.1 to read as follows:

1014.2.1 Determine the size of the grease interceptor by following procedure to determine the volume of sink in gallons:

Method of Sizing Interior Grease Traps

1. Determine total capacity of sink(s) including all compartments in cubic inches.
2. Divide cubic inches by 231 to determine the capacity in gallons.
3. Multiply total capacity by seventy five percent (75%) to determine the actual drainage load in gallons.
4. Determine the flow rate for a one minute (1) drainage period by dividing the actual drainage load by the drainage period that occurs in one (1) minute, the result is equal to GPM.
5. Select the grease interceptor by choosing the next largest size when the flow rate is between two (2) sizes.
6. Two (2) pounds retention capacity is equal to one (1) gpm flow rate.

Change Section 1014.4 to read as follows:

1014.4 Each grease trap required by this section shall have an approved rate of flow which is not less than that as determined by 1014.2.1 for sinks and Table 10 2 for the total number of connected fixtures. The total capacity in gallons (L) of fixtures discharging into any such grease trap shall not exceed two and one half (2 1/2) times the certified gpm (L/s) flow rate of the grease trap as determined by 1014.2.

Any grease trap installed with the inlet more than four (4) feet (1219 mm) lower in elevation than the outlet of any fixture discharging into such grease trap shall have an approved rate of flow which is not less than fifty percent (50%) greater than that given in Table 10 2.

Not more than four (4) separate fixtures shall be connected to or discharged into any one (1) grease trap, which is installed inside the building. Floor drains receiving incidental water are not included as a fixture for the purposes of this paragraph.

For the purpose of this section, the term "fixture" shall mean and include each plumbing fixture; appliance, apparatus, or other equipment required to be connected to or discharged into a grease trap by any provision of this section.

Change Section 1015.0 to read as follows:

1015.0 Food Waste Disposal and Dishwasher Prohibited. Unless specifically required or permitted by the Authority Having Jurisdiction, no food waste disposal unit or dishwasher shall be connected to or discharge into any grease trap. A dishwasher may discharge into an EXTERIOR grease trap.

Change Section 1017.1 to read as follows:

1017.1 Interceptors Required. All parking structures, repair garages and gasoline stations with grease racks or grease pits, and all factories which have oily, flammable, or both types of wastes as a result of manufacturing, storage, maintenance, repair or testing processes, shall be provided with an oil or flammable liquid interceptor which shall be connected to all necessary floor drains. The separation or vapor compartment shall be independently vented to the outer air. If two (2) or more separation or vapor compartments are used, each shall be vented to the outer air or may connect to a header which is installed at a minimum of six (6) inches (152 mm) above the spill line of the lowest floor drain and vented independently to the outer air. The minimum size of a flammable vapor vent shall not be less than two (2) inches (51 mm), and when vented through a sidewall, the vent shall not be less than ten (10) feet (3048 mm) above the adjacent level at an approved location. The interceptor shall be vented on the sewer side and shall not connect to a flammable vapor vent. All oil and flammable interceptors shall be provided with gastight cleanout covers, which shall be readily accessible. The waste line shall not be less than three (3) inches (76 mm) in diameter with a full size cleanout to grade. Interceptors installed within a building, and any interceptor which is provided with an overflow, shall be provided with an overflow line (not less than two (2) inches (51 mm) in diameter) to an approved exterior waste oil tank having a minimum capacity of five hundred fifty (550) gallons (2080 L) and meeting the requirements of the Authority Having Jurisdiction. The waste oil from the separator shall flow by gravity or shall be pumped to a higher elevation by an automatic pump. Pumps shall be adequately sized and accessible. Waste oil tanks shall have a two (2) inch (51 mm) minimum pump out connection at grade and a one and one half (1 1/2) inch (38 mm) minimum vent to atmosphere at an approved location at least ten (10) feet (3048 mm) above grade.

Add Section 1017.3 to read as follows:

1017.3 Combination Oil and Sand Interceptor. A combination oil and sand interceptor may be installed

Chapter 11 Storm Drainage

Change Section 1101.1 to read as follows:

1101.1 Where Required. All roofs, paved areas, yards, courts, and courtyards shall be drained into a separate storm sewer system, or into a combined sewer system where a separate storm sewer system is not available. Downspout leaders shall be sewer connected

with the exception of roof areas having five hundred fifty (550) square feet or less, provided the discharge from the downspout leaders does not create a nuisance.

Change Section 1101.7 to read as follows:

1101.7 Areaway Drains. All open subsurface space adjacent to a building, serving as an entrance to the basement or cellar of a building, shall be provided with a drain or drains. Such areaway drains shall be three (3) inches (76 mm) minimum diameter for areaways not exceeding one hundred (100) square feet (9.3 m²) in area, and shall be discharged in the manner provided for subsoil drains not serving continuously flowing springs or ground water (see Section 1101.5.2). Areaways in excess of one hundred (100) square feet (9.3 m²) shall be sized according to Table 11 2.

Change Section 1101.11.1 to read as follows:

1101.11.1 Primary Roof Drainage. Roof areas of a building shall be drained by roof drains or gutters. The location and sizing of drains and gutters shall be coordinated with the structural design and pitch of the roof. Unless otherwise required by the Authority Having Jurisdiction, roof drains, gutters, vertical conductors or leaders, and horizontal storm drains for primary drainage shall be sized based on a storm of sixty (60) minutes duration and 100 year return period based on a rate of six (6) inches per hour (see Appendix D).

Change Section 1101.11.2.1 to read as follows:

1101.11.2.1 Where parapet walls or other construction extend above the roof and create areas where storm water would become trapped if the primary roof drainage system failed to provide sufficient drainage, an independent secondary roof drainage system consisting of scuppers, standpipes, or roof drains shall be provided. Discharge from secondary roof drains onto any area which may be occupied by persons or vehicles shall not be allowed to fall more than three (3) feet above the ground. Secondary roof drainage systems shall be sized in accordance with Section 1101.11.1 as amended by this Code. Overflow drains shall be the same size as the roof drains with the inlet flow line two (2) inches (51 mm) above the low point of the roof and shall be installed independent from the roof drains.

Change Section 1101.11.2.5 to read as follows:

1101.11.2.5 No part of the primary roof drainage system such as drains, scuppers, piping, gutters or appurtenances, which is a part of the primary roof drainage system, may be used in the design or installation of the secondary roof drainage system.

Change Section 1101.11.3 to read as follows:

1101.11.3 When approved by the Authority Having Jurisdiction, the requirements of Sections 1101.11.1 as amended and 1101.11.2 shall not preclude the installation of an engineered roof drainage system that has sufficient capacity to prevent water from ponding on the roof in excess of that allowed in the roof structural design with a rainfall rate of at least twice that for a 100 year, 60 minute storm, based on a rate of six (6) inches per hour, and with a blockage in any single point in the storm drainage system.

Change Section 1101.12.2 to read as follows:

1101.12.2 Rain leaders and conductors connected to a building storm sewer shall have a cleanout installed at the base of the outside leader or outside conductor and a minimum of three (3) feet and a maximum of five (5) feet above the finished floor on all inside conductors and interior downspouts, before it connects to the horizontal drain.

Change Section 1102.3 and 1102.4 to read as follows:

1102.3 Underground Building Storm Drains. All underground building storm drains shall be constructed of materials as specified in Table 14 1 and listed in A below.

- A. All underground building storm drains shall be cast iron soil pipe, hard temper copper tube (DWV weight or heavier), ABS (DWV Schedule 40) or PVC (DWV Schedule 40) plastic pipe, or extra strength vitrified clay pipe with compression joints or couplings (provided that extra strength vitrified clay pipe shall be installed with a minimum earth cover of twelve (12) inch, or class II or heavier reinforced concrete pipe. Where ferrous threaded joints are used underground they shall be coal tar coated or equivalent approved protection applied when installed.

1102.4 Building Storm Sewers. Building storm sewers shall be constructed of materials as specified in Table 14 1 and listed in A below.

- A. The building storm sewer material shall be cast iron, soil pipe, concrete, vitrified clay, copper tube (DWV weight or heavier), ABS (DWV Schedule 40) or PVC (DWV Schedule 40) plastic sewer pipe (PS 46 psi or stiffer plastic pipe), ABS (DWV Schedule 40) or PVC (DWV Schedule 40) sewer pipe SDR 35 or heavier.

- B. Depth and Minimum Cover.
1. Storm sewers shall have a minimum depth of thirty inches (30).
 2. At stream and channel crossings, a minimum depth of two (2) feet shall be allowed only where greater depths cannot be achieved. Where this minimum cover cannot be achieved, Schedule 50 ductile iron pipe with restrained joints must be used unless otherwise directed by the Authority Having Jurisdiction. Stream and channel crossings must be protected with grouted rock blanket.

Change Section 1104.3 to read as follows:

1104.3 Combining Storm with Sanitary Drainage. The sanitary and storm drainage system of a building shall be entirely separate, except where a combined sewer is used, in which case the building storm drain may be connected in the same horizontal plane through single wye fittings to the combined building sewer at least ten (10) feet (3048 mm) downstream from any soil stack and outside the building.

Change Section 1109.2.2 to read as follows:

1109.2.2 Exceptions: *When circumstances exist that make water tests, described in Section 1109.2.1 above, impractical, and for minor maintenance, repairs and installations, the Authority Having Jurisdiction may perform the inspection as considered advisable by said authority to assure that the work has been in accordance with provisions of this Code.*

Delete Section 1109.2.3.

Chapter 12 Fuel Piping

Change Section 1202.0 to read as follows:

1202.0 General. The regulations of this chapter shall govern the installation of all fuel gas piping in or in connection with any building or structure or within the property lines of any premises up to 5 psi (34 kPa), other than service pipe. Fuel oil piping systems shall be installed in accordance with NFPA 31. If any conflict of interpretations, requirements or Ordinance sections of this Chapter occur between other similar Code provisions and other City of Saint Louis Ordinances, the more stringent requirement shall apply.

Except for: Gas piping, meters, gas-pressure regulators, and other appurtenances used by the serving gas supplier in distribution of gas, other than undiluted LP-Gas [NFPA 54:1.1.1.2]

Chapter 13 Health Care Facilities and Medical Gas and Vacuum Systems

Change Section 1301.0 to read as follows:

1301.0 Application.

Chapter 13 is not adopted but is accepted and included in this Code as a reference.

Chapter 14 Mandatory Referenced Standards

Add Note for Table 14-1 to read as follows:

Note for Table 14-1: The standards referenced in this Code shall be considered part of the requirements of this Code to the prescribed extent of each such reference. If any conflict of interpretations, requirements or Ordinance sections of this Chapter occur between other similar Code provisions and other City of Saint Louis Ordinances, the more stringent shall apply. The appearance of items, under listed categories of this Chapter (14) does not, by itself, authorize the use of those items unless specified elsewhere in this Code for use or found acceptable for use by the Authority Having Jurisdiction.

Chapter 15 Firestop Protection

Change Section 1501.1 to read as follows:

1501.1 Applicability. All piping penetrations of required fire-resistance-rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the Building Code, and this chapter. The penetration must meet any additional requirements for protection of the penetration in the building code adopted by the Authority Having Jurisdiction. If any conflict of interpretations, requirements or Ordinance sections of this Chapter occur between other similar Code provisions and other City of Saint Louis Ordinances, the more stringent shall apply.

Section Four.

Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof, or who shall erect, construct, alter, extend, repair, remove, demolish, use or occupy any building, structure or premises or equipment regulated by this code in violation of an approved construction document or directive of the code official or the Board of Building Appeals, or of a permit or certificate issued under the provisions of this code, and shall, upon conviction thereof, be punished by a fine of not more

than five hundred dollars, or by imprisonment not exceeding ninety days, or both such fine and imprisonment. Each day that a violation continues shall constitute a separate and distinct offense.

Section Five.

That nothing in this Ordinance or in the Plumbing Code hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section Two of this Ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

Section Six.

This being an ordinance necessary for the immediate preservation of the public safety, it is hereby declared to be an emergency measure and shall become effective immediately upon its approval by the Mayor.

Section Seven.

It is the intent of the Board of Aldermen that Sections Two, Three and Four of this ordinance be codified in the Revised Code of the City of Saint Louis.

Appendix M

On file in the Register's Office

Approved: February 22,2005