

BILL NO. 23-082

ORDINANCE NO. 19485

AN ORDINANCE AMENDING CHAPTER 20 "PUBLIC WORKS MANUAL" OF THE INDEPENDENCE CITY CODE AND ALL REFERENCES TO THIS CHAPTER.

WHEREAS, the Public Works Department, Water Department, and the Water Pollution Control Department have been reorganized into the Municipal Services Department; and

WHEREAS, staff has reviewed Chapter 20 and in furtherance of adoption of a newly rewritten Chapter 20, has reviewed Sections of the City Code dealing with public infrastructure; and

WHEREAS, to streamline and make more efficient the requirements for public infrastructure related to development while maintaining some flexibility to meet the changing needs of the City and the public in the requirements for public infrastructure; and

WHEREAS, it is necessary to provide a Design and Construction Manual that sets out the specifications for all public improvements within the City so that they are in one place for ease of access; and

WHEREAS, it is desirable to modernize references in the City Code relating to the Municipal Services Department and public infrastructure and to bring those Code provisions in line, and consistent, with other provisions of the Code adopted over time; and

WHEREAS, City staff recommends the adoption of amendments to the City's Code to deal with public infrastructure and the role of the Municipal Services Department within the City as set out in Exhibit "A" attached hereto.

NOW THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF INDEPENDENCE, MISSOURI, AS FOLLOWS:

SECTION 1: That the City Code of the City of Independence is hereby amended to read as follows:

That Section 1.08 through 1.08.002 of Chapter 1, AGENCIES, OFFICERS, EMPLOYEES AND ELECTIONS, of the Independence City Code is hereby amended to read as follows:

ARTICLE 8. PUBLIC WORKS DEPARTMENT/WATER POLLUTION CONTROL MUNICIPAL SERVICES DEPARTMENT

Sec. 1.08.001. Public Works Municipal Services.

There shall be a ~~Public Works~~ **Municipal Services** Department, the Director of which shall be the Director of ~~Public Works~~ **Municipal Services** appointed by the City Manager, as provided by the City Charter, Section 3.19.

Sec. 1.08.002. Powers and duties Public Works Municipal Services.

- A. The ~~Public Works~~ **Municipal Services** Department shall have the powers and duties prescribed by the City Charter, Section 3.20, as they relate to inspection of construction plans, the design of construction plans and corrections to drainage and physical facility problems, and related appurtenances. Administration of the various construction codes found in Chapter 4 of this City Code and the zoning regulations found in Chapter 14 of this City Code will be the responsibility of the Community Development Department.
- B. The ~~Public Works~~ **Municipal Services** Department shall also have the powers and duties as they relate to public projects, the construction, reconstruction, repair, and maintenance of physical facilities, except the City cemeteries shall be assigned to the Parks and Recreation Department and the primary inspection of privately owned structures related to the construction codes in Chapter 4 of this City Code will be the responsibility of the Community Development Department.

That Section 1.43.007 of Chapter 1, AGENCIES, OFFICERS, EMPLOYEES AND ELECTIONS, of the Independence City Code is hereby amended to read as follows:

Sec. 1.43.007. Powers and duties.

- E. The Management Analyst shall audit all proposed utility rate increases for any of the City operated utilities (Power & Light, Water, and ~~Water Pollution Control~~ Municipal Services Departments) prior to any action being taken by the City Council on the proposed rate increases.

That Section 1.47.001 through 1.47.002 of Chapter 1, AGENCIES, OFFICERS, EMPLOYEES AND ELECTIONS, of the Independence City Code is hereby amended to read as follows:

Sec. 1.47.001. ~~Water Pollution Control~~ Municipal Services Department.

There shall be a ~~Water Pollution Control~~ Municipal Services Department, the director of which shall be the Director of ~~Water Pollution Control~~ Municipal Services appointed by the City Manager, under authority of the City Charter, Section 3.4.

Sec. 1.47.002. Powers and duties—~~Water Pollution Control~~ Municipal Services Department.

The ~~Water Pollution Control~~ Municipal Services Department shall be responsible for the operations of all wastewater collection and treatment facilities owned by the City and have jurisdiction over private sewerage disposal systems and is further assigned to work toward the control of pollutants entering the water streams. The ~~Water Pollution Control~~ Municipal Services Department shall be responsible for the collection and conveyance of the publicly owned storm water sewers.

That Section 1.47.005 of Chapter 1, AGENCIES, OFFICERS, EMPLOYEES AND ELECTIONS, of the Independence City Code is hereby amended to read as follows:

Sec. 1.47.005. Independence Water Authority.

- A. There shall be an Independence Water Authority, which shall serve as the strategic leadership body of the Independence ~~Water Department and Independence Water Pollution Control~~ Municipal Services Department.
- B. The Independence Water Authority shall consist of management, administrative, and technical staff as determined by the directors of both the City Water and ~~Water Pollution Control~~ Municipal Services departments.

That Section 4.01.011 of Chapter 4, BUILDING, PLUMBING AND ELECTRICAL INSTALLATIONS, of the Independence City Code is hereby amended to read as follows:

Sec. 4.01.011. Structures and exterior property areas.

- g. Roll-off trash containers between ten to 40 cubic yards in size may be temporarily placed on residential property. Placement in the public right-of-way or on a public street requires a permit from the ~~Public Works~~ Municipal Services Department. Containers may be placed for a maximum of 15 days or, if needed for construction purposes, for the duration of an active City building permit. The container may only be used to temporarily store debris or refuse removed from the premises on which the roll-off container unit is sited. The container must be kept reasonably clean and sanitary, must be free from noxious odors, and must prohibit refuse from escaping.

Sec. 4.10.005. Powers and duties.

- 2. to review the decisions of the Building Official, the Code Official, the Director of ~~Public Works~~ Municipal Services or the Fire Chief in the interpretation of the International Building Code, International Plumbing Code, International Mechanical Code, National Electrical Code, Chapter 17 of the City Code, ~~Public Works~~ Municipal Services Manual, and International Fire Code or any other related City standard of the City of Independence;”

Sec. 4.10.006. Procedure for appeal.

Appeals to the Board may be taken by any person aggrieved by a decision of the Building Official, Code Official, Director of ~~Public Works~~ Municipal Services or Fire Chief in relation to materials, equipment, design, and

types of construction required in their interpretation of the codes and standards listed in Section 4.10.005. Such appeal shall be taken within 30 days of the aggrieved action taken by the Building Official, Director of FF or Fire Chief by filing with the officer from whom the appeal is taken a written request for an appeal specifying the grounds thereon, together with a filing fee as set forth in the City's Schedule of Fees. The officer from whom the appeal is taken shall immediately transmit to the Board all the papers constituting the record upon which the action appealed from was taken. An appeal shall stay all proceedings and furtherance of the actions appealed from unless the officer from whom the appeal is taken certifies to the Board after the notice of appeal is filed with him that a stay would in his opinion cause immediate peril to life or property. In such case, proceedings shall not be stayed other than by a restraining order that may be granted by the Board or by a court of competent jurisdiction with notice to the officer from whom the appeal is taken and on due cause shown. The Board shall fix a time and place for the hearing on the particular points raised by the appeal within 30 days following receipt of same and decide same within a reasonable period. A notice of the hearing shall be mailed to the appellant's last known address at least five days prior to the date set for the hearing. At the hearing, any party may appear in person or by agent or by attorney."

Sec. 4.10.007. Board decisions.

Upon any decision of the Board, a copy of the Board's decision shall be sent to the Building Official, Director of Public Works ~~Public Works~~ **Municipal Services** or Fire Chief, who shall subsequently take such action as is deemed appropriate by the Board. In no case shall the Board provide a general change in the Code, and in no case shall the Board decide an appeal from an action of the City Council. A concurring vote of three members of the Board shall be necessary to effect a decision."

That Section 5.01.028 of Chapter 5, **BUSINESS AND OCCUPATION LICENSES**, of the Independence City Code is hereby amended to read as follows:

Sec. 5.01.028. Mobile food units allowed.

- C. Mobile food units licensed under this chapter shall:
1. obtain any other permits and comply with all other applicable regulations under Chapter 11 or other chapters of this Code;
 2. obtain and be able to produce upon request, written permission of the property owner;
 3. obtain written permission, in the case of property owned by the City of Independence, as follows:
 - i. operating in City parks only with permission from the Director of Parks and Recreation or his designee;
 - ii. operating in City parking lots, other than lots in use as the Farmers' Market, only with permission from the Director of ~~Public Works~~ **Municipal Services** or his designee. In the Independence Square retail area and Englewood Arts District, the Director of ~~Public Works~~ **Municipal Services** will designate by signage pre-approved parking locations. Vendors will be able to operate in these designated areas on a first-come first-served basis;

That Section 5.18.010 of Chapter 5, **BUSINESS AND OCCUPATION LICENSES**, of the Independence City Code is hereby amended to read as follows:

Sec. 5.18.010. License surcharge annual review.

- A. The Street Improvement Oversight Committee shall monitor the license surcharge and to make recommendations annually to the City Council regarding any amendments to this article, the resolution establishing trip generation rates and license surcharge rates, administrative guidelines, the streets to be constructed as specified in the Excise Tax Capital Improvement Plan, and any other matters related to the imposition, collection and use of the license surcharge proceeds.
- B. To assist the Street Improvement Oversight Committee in performing its annual review the City Manager, with the assistance of the Community Development, Finance and ~~Public Works~~ **Municipal Services** Directors, shall prepare and submit to the Street Improvement Oversight Committee a report on the subject of the license surcharge, which report shall include:
 1. Recommendations regarding appropriate amendments to this article;

2. Any proposed changes in the license surcharge rates, including but not limited to any change to the maximum rate of the tax, based on an increase or decrease in the Construction Cost Index published by the Engineering News Record, which changes shall become effective on January 1 of the calendar year in which the revised rates are designated to take effect;
 3. Proposed changes to the license surcharge calculation method, including the trip generation estimates and the land use categories, if appropriate;
 4. Analysis of costs and revenues resulting from the license surcharge imposed pursuant to this article;
 5. Analysis of the impact of the license surcharge, if any, on growth and development in the City in each market segment during the preceding year;
 6. The status of the implementation and administration of this article;
 7. A summary of the appeals taken pursuant to this article;
 8. Any proposed changes in the Excise Tax Capital Improvements Plan based on changes in development patterns in the City or other relevant factors.
- C. The City Manager, in preparing the annual report, shall, at a minimum, obtain and review the following information:
1. A statement from the Finance Director summarizing the revenue collected through the license surcharge and disbursed during the preceding year;
 2. A statement from the Community Development Director summarizing the applications for building permits subject to the license surcharge approved during the preceding year;
 3. A statement from the ~~Public Works~~ Municipal Services Director regarding all street improvements funded with license surcharge proceeds and initiated, advanced or completed during the preceding year; and
 4. A statement from the ~~Public Works~~ Municipal Services Director regarding any change in the Construction Cost Index as published by the Engineering News Record and the effect of any such change on the maximum rate of the license surcharge.

That Section 5.20.001 of Chapter 5, BUSINESS AND OCCUPATION LICENSES, of the Independence City Code is hereby amended to read as follows:

Sec. 5.20.001. Sale and retail display.

2. *Occupation License Required.* No person shall construct a retail display for, sell, or offer for sale at retail, Division 1.4G fireworks as authorized by Subsection 1 of this Section 5.20.001 without a license issued pursuant to this Subsection 2. It shall be unlawful for any person to sell fireworks from a vehicle or in any other manner except from a structure or stand licensed to sell fireworks pursuant to this section.
 - A. There shall be up to 16 fireworks stand licenses available for issuance within the City annually:
 - (1) For not-for-profit organizations whose primary purpose is religious, education, youth related or community service and which are located within the City; or;
 - (2) For not-for-profit organizations whose primary purpose is religious, education, youth related or community service whose principal business is located within 1,500 feet of the City Limits, serving residents and businesses within the City Limits as their primary audience, and who own property within the City.
 - (3) Applications shall be made to the City's Community Development Director or his designee on a form provided by the City between the 2nd Monday of April and the following Friday in April, for a license to be issued for July of the same year. The Director shall first consider those applications from the organizations which held a license in 2017 and remained licensed each year thereafter.
 - (4) After licenses are issued pursuant to Section 5.20.001.2.A(1), any remaining licenses shall be issued as follows: The Community Development Director or his designee shall randomly select

applications properly filed by the deadline and shall process such applications in the order selected.

- (5) A not-for-profit organization shall be limited to one application submission each year and may be issued not more than one fireworks stand license.
 - (6) Incomplete applications shall be rejected and further randomly selected applications considered until all licenses have been issued.
- B. Site Plan. No application will be accepted without a site plan showing the following:
- (1) Address or site location (no sales or storage will be permitted in a residentially zoned district or within 300 feet of any permanent storage of ignitable liquid, gases, gasoline pump, or gasoline filling station);
 - (2) Property owner and operators' names, addresses and phone numbers;
 - (3) Size of lot and tent;
 - (4) Location of tent(s) and all other structures and equipment including trailers and storage units on the lot (a maximum of two semi-truck storage trailers or the equivalent of trailer storage shall be permitted per location);
 - (5) Location of all existing driveway entrances and temporary parking lots (construction of new driveway entrances and surfacing of parking areas require a permit from the ~~Public Works~~ Municipal Services Department).

That Section 7.05.002 through 7.05.004 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

Sec. 7.05.002. Definitions.

The following words and phrases, when used in this article, shall have the meaning set out herein:

BUFFER is vegetated area or zone, including trees, shrubs, and herbaceous vegetation, that exists or is established to protect a stream system or other water resource.

BUFFER PLAN is a plan approved by the City pursuant to Section 7.05.004 of this article.

CONSTRUCTION FENCING is four foot high orange mesh, or other vibrant color approved by the City.

DEVELOPMENT means any human-made change to improved or unimproved real estate that requires an application or permit to be filed with the City, including but not limited to, buildings, fences and other structures; mining, dredging and drilling operations; grading, site clearance, paving, excavation and filling; storage of equipment and materials.

DIRECTOR is the Director of ~~Water Pollution Control~~ Municipal Services or any duly authorized representative.

Sec. 7.05.003. Applicability.

- A. This article shall apply to all land or new development within the stream corridor, as defined by this article and applied to designated stream segments identified on the Independence Stream Order Map established December 1, 2005, and incorporated as a part of this section. No development shall occur on a parcel of land that is within or partially within the defined stream corridor, except in accordance with this article; provided, however, that this article shall not apply to land or to development which:
 1. Is on land covered by an approved, unexpired preliminary plat or preliminary plan, where such approval was given prior to the effective date of this article; or
 2. Is covered by an unexpired building permit issued prior to the effective date of this article, in accordance with City Code, and platting was not required prior to issuance of a building permit.

3. Is the subject of a Federal Clean Water Act Individual 404 Permit issued after timely notice of the a application for such permit is provided to the City. If a development obtains a Federal Clean Water Act Individual 404 Permit allowing a stream to be relocated or otherwise altered, this article will apply to the new stream location.
 4. Is being used for agricultural operations.
- B. For the purpose of this article, the Little Blue Trace Park shall be deemed to be the stream buffer for the Little Blue River and the East Fork of the Little Blue River.
 - C. No development shall be approved that proposes development on any parcel of land wholly or partially within the defined stream corridor unless the proposed development is in compliance with the applicable provisions of this article.
 - D. Except as otherwise provided herein, the Director of the ~~Water Pollution Control~~ **Municipal Services Department** shall administer, implement and enforce the provisions of this article. Any powers granted to or duties imposed upon said Director may be delegated by said Director to other City personnel or authorized representatives.

Sec. 7.05.004. Plan requirements.

- A. A buffer plan approved by the City is required for all projects where development or redevelopment is to occur on property that includes or is adjacent to a stream, except as provided by Section 7.05.003. The plan shall set forth an informative, conceptual, and schematic representation of the proposed activity so as to enable the City an opportunity to make a reasonably informed decision regarding the proposed activity.
- B. An application for approval of a buffer plan shall be made in writing to the Director of ~~Water Pollution Control~~ **Municipal Services** and shall be accompanied by a permit application fee of \$100.00.

That Section 7.05.009 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

Sec. 7.05.009. Appeals.

- A. If a buffer plan is denied, the applicant shall first request reconsideration by the Director. Failure to request reconsideration within 30 days shall be deemed a waiver of the appeal process. Such request shall be in writing and shall state with specificity why the buffer plan has been incorrectly denied. In reconsideration, the Director shall determine whether the Code was incorrectly interpreted in evaluating the buffer plan and shall also have the authority to grant variances to the Code if:
 1. The development has had buffer(s) applied in conformance with previously issued requirements.
 2. The development has slopes or special geological conditions, such as bluffs or rock outcroppings, or existing structures, or the development will provide mitigation, in which case the middle and outer zone widths may be reduced at some points so long as the average width of the buffer throughout the development meets the minimum requirement and the stream side zone is not reduced.
- B. Appeals to the Board of Adjustment may be made by any person aggrieved or affected by any decision of the Director of ~~Water Pollution Control~~ **Municipal Services**. Such appeal shall be made within a reasonable time as provided by the rules of the Board by filing with the Director of ~~Water Pollution Control~~ **Municipal Services** a notice of appeal specifying the grounds thereof. The Director of ~~Water Pollution Control~~ **Municipal Services** to whom the appeal is submitted shall forthwith transmit to the Board all the papers constituting the record of the action appealed. An appeal stays all proceedings in furtherance of the action appealed from unless the Director of ~~Water Pollution Control~~ **Municipal Services**, from whom the appeal is taken, certifies to the Board of Adjustment that after the notice of appeal shall have been filed, a stay would cause immediate peril to life or property. In such case, proceedings shall not be stayed otherwise than by a restraining order that may be granted by the Board of Adjustment or a court of jurisdiction on application and notice to the Director of ~~Water Pollution Control~~ **Municipal Services** and due cause is shown.
- C. The Board of Adjustment shall fix a time for the hearing of the appeal within 30 days following its receipt, give public notice thereof by publication one time in a newspaper of local circulation in Independence not

less than five and not more than 15 days prior to the date of said hearing, and decide the same within a reasonable time. At the hearing, any party may appear in person, by agent or by attorney.

- D. The Board of Adjustment as created by the Charter of the City of Independence shall take action only in reference to a specific development when it has determined that a buffer plan has been incorrectly denied, or when it has determined that this article has been incorrectly interpreted, or when the appellant proves undue and unnecessary hardship due to a provision or provisions herein contained as applied to a specific development. Upon determination of incorrect action by the Director of ~~Water Pollution Control~~ **Municipal Services** or of undue or unnecessary hardship, the Board may issue a variance signed by the chairman. A copy of the variance shall be sent to the Director of ~~Water Pollution Control~~ **Municipal Services**, who shall approve the buffer plan, including the terms of the variance. In no case shall the Board of Adjustment issue a variance reducing the required width of the stream buffer to less than an average of 85 feet or 75 percent of the total required buffer on each side of the stream beginning at the stream bank. The stream side zone shall not be reduced in width. The Board of Adjustment must make findings based on evidence presented to it in each specific case that:

That Section 7.06.000 through 7.06.004 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

Sec. 7.06.000. General provisions.

- A. This article sets forth the uniform requirements for users of the storm water and wastewater collection systems and Publicly Owned Treatment Works (POTW) for the City of Independence and enables the City to comply with all applicable State and Federal laws including the Clean Water Act (33 U.S.C. 1251 et seq.), Missouri Clean Water Law, the General Pretreatment Regulations (40 CFR Part 403; 10 CSR 20-6.100) and the Storm Water Regulations (40 CFR Parts 122, 123 and 124; 10 CSR 20-6.200), as may be amended from time to time. The objectives of this article are:
1. To prevent the introduction of pollutants into the POTW that will interfere with the operation of the POTW.
 2. To prevent the introduction of pollutants into the POTW which will pass through the POTW, inadequately treated, into receiving waters or otherwise be incompatible with the POTW;
 3. To ensure that the quality of the POTW's sludge is maintained at a level which allows its use and disposal in compliance with applicable statutes and regulations;
 4. To protect POTW personnel who may be affected by wastewater and sludge in the course of their employment and to protect the general public;
 5. To improve the opportunity to recycle and reclaim wastewater and sludge from the POTW;
 6. To provide for fees for the equitable distribution of the cost of operation, maintenance and improvement of the POTW;
 7. To enable the City to comply with NPDES permit conditions, sludge use and disposal requirements and any other Federal or State laws and regulations to which the POTW is subject;
 8. To reduce the discharge of pollutants from the municipal separate storm sewer systems to the maximum extent practicable;
 9. To prohibit polluted non-storm water discharges into the storm sewers; and;
 10. To protect human health and the water environment.
- B. This article shall apply to all users of the POTW and the storm water and wastewater collection systems. This article authorizes the issuance of wastewater discharge permits; authorizes monitoring, compliance and enforcement activities; establishes administrative review procedures; requires industrial user reporting; and provides for the equitable distribution of costs resulting from the programs established herein.
- C. Except as otherwise provided herein, the Director of the ~~Water Pollution Control~~ **Municipal Services Department** shall administer, implement and enforce the provisions of this article. Any powers granted to or duties imposed upon said Director may be delegated by said Director to other City personnel or other authorized representatives.

Sec. 7.06.001. Definitions.

[A. Definitions.] In this article and the next article (Sanitary Sewer Rates), unless the context requires otherwise:

ACT means the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. 1251 et seq.

APPROVAL AUTHORITY means the State of Missouri.

AUTHORIZED REPRESENTATIVE OF THE INDUSTRIAL USER means:

1. If the industrial user is a corporation:
 - a. The president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - b. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for wastewater discharge permit requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
2. If the industrial user is a partnership, a general partner;
3. If the industrial user is a sole proprietorship, a proprietor;
4. If the industrial user is a Federal, State or local government facility, a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or his/her designee.

The individuals described in 1.—4. above may designate another authorized representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for environmental matters for the facility, and the written authorization is submitted to the Director.

BEST MANAGEMENT PRACTICES or BMPs means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in Section 7.06.005.A.1. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.

BOD (denoting Biochemical Oxygen Demand) means a measure of the quantity of oxygen utilized in the biochemical oxidation of organic matter in a specified time and at a specific temperature. It is not related to the oxygen requirements in chemical combustion, being determined entirely by the availability of the material as a biochemical food and by the amount of oxygen utilized by the microorganisms during oxidation.

BUILDING DRAIN means that part of the lowest horizontal 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 two feet outside the inner face of the building wall.

BUILDING OFFICIAL means the person charged with the administration and enforcement of the adopted Plumbing Code.

BUILDING SEWER means the extension from the building drain to the public sewer or other place of disposal, also called house connection.

BYPASS means the intentional diversion of wastestreams from any portion of an industrial user's treatment facility.

CATEGORICAL PRETREATMENT STANDARD or CATEGORICAL STANDARD means any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Section 307(b) and (c) of the Act (33 U.S.C. 1317) which applies to a specific category of Nondomestic Users and which appear in 40 CFR Chapter I, Subchapter N, as may be amended from time to time.

CITY shall mean City of Independence, Missouri.

COD (denoting Chemical Oxygen Demand) means a quantitative measure of the amount of oxygen required for the chemical oxidation of carbonaceous (organic) material in wastewater using inorganic dichromate or permanganate salts as oxidants in a two-hour test.

COMBINED SEWER means a sewer designed to receive both wastewater and storm or surface water.

COMPOSITE SAMPLE means a sample resulting from the combination of individual wastewater samples taken at selected intervals based on an increment of either flow or time.

CONTROL AUTHORITY means the POTW if the POTW's submission for its pretreatment program has been approved by the Approval Authority; or Control Authority means the Approval Authority if the POTW's submission for its pretreatment program has not been approved.

DAILY MAXIMUM means the arithmetic average of all effluent samples for a pollutant collected during a calendar day.

DAILY MAXIMUM LIMIT means the maximum allowable discharge limit of a pollutant during a calendar day. Where Daily Maximum Limits are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where Daily Maximum Limits are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.

DEPARTMENT means the ~~Water Pollution Control~~ Municipal Services Department of the City of Independence.

DIRECTOR means the Director of the ~~Water Pollution Control~~ Municipal Services Department of the City or any duly authorized representative.

DISCHARGE means the discharge of a pollutant.

DOMESTIC WASTES means wastes which are comparable to those discharged by the average residential user. The strength of domestic wastewater shall have a COD less than or equal to 400 mg/l or a BOD less than or equal to 225 mg/l and contain less than or equal to 250 mg/l suspended solids.

EASEMENT means a legal right for the specific use of land owned by others.

EPA (denoting Environmental Protection Agency) means the United States Environmental Protection Agency, or where appropriate, the term may also be used as a designation for the Administrator or other duly authorized official of said agency.

EXISTING SOURCE means any building, structure, facility or installation from which there is or may be a discharge of pollutants which does not meet the definition of new source.

FOOD PREPARATION CONCERN means any hotel, institution, restaurant, hospital, catering establishment or similar place where garbage originates from the preparation of food in kitchens for the purpose of consumption on the premises or when served by caterers.

GARBAGE means the animal and vegetable waste resulting from the handling, preparation, cooking, and serving of foods.

HOLDING TANK WASTE means any domestic or nondomestic waste from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum-pump tank trucks that are not connected by piping, either directly or by indirect sewer discharge, to the POTW.

INDIRECT SEWER DISCHARGE means any wastewater discharged to a sewer located in another jurisdiction which is tributary to a public sewer owned by the City of Independence.

INDUSTRIAL USER means any nondomestic source of discharge or indirect sewer discharge into the City's wastewater system which is regulated under Section 307(b), (c), or (d) of the Clean Water Act, or any source listed in division A, B, D, E, or I of the Standard Industrial Classification Manual (1987), as may be amended or revised, or any solid waste disposal operation such as, but not limited to, landfills, recycling facilities, solid or hazardous waste handling or disposal facilities, and facilities which store or treat aqueous wastes as generated by facilities not located on site and which dispose of these wastes by discharging them into the City's wastewater system.

INSTANTANEOUS MAXIMUM ALLOWABLE DISCHARGE LIMIT means the maximum concentration (or loading) of a pollutant allowed to be discharged at any time, determined from the analysis of any discrete or composited sample collected, independent of the industrial flow rate and the duration of the sampling event.

INTERFERENCE means a discharge which alone or in conjunction with a discharge or discharges from other sources: (1) inhibits or disrupts the POTW, its treatment processes or operations or its sludge or ash processes, use or disposal; and (2) therefore is a cause of a violation of the City's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge or ash use or disposal in compliance with any of the following statutory/regulatory provisions or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act; the Solid Waste Disposal Act (SWDA), including Title II commonly referred to as the Resource Conservation and Recovery Act (RCRA); any State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SWDA; the Clean Air Act; the Toxic Substances Control Act; and the Marine Protection, Research and Sanctuaries Act.

LOCAL LIMITS mean limits placed on pollutants which would interfere with the operation of the POTW treatment plant; interfere with sludge processes, use or disposal; cause a violation of the POTW's NPDES permit; or degrade the water quality of the receiving body of water. Local limits, which may be developed from time to time pursuant to 40 CFR 403.5(c), as may be amended from time to time, establish the maximum allowable headworks loading of pollutants on the POTW treatment plant and are separate and distinct from specific pollutant limitations set forth in Section 7.06.007 of this article.

MEDICAL WASTE means isolation wastes, infectious agents, human blood and blood byproducts, pathological wastes, sharps, body parts, fomites, etiologic agents, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes and dialysis wastes.

NEW SOURCE means any building, structure, facility or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed pretreatment standards under Section 307(c) of the Act which will be applicable to such source if such standards are thereafter promulgated in accordance with that section, provided that:

1. The building, structure, facility or installation is constructed at a site at which no other source is located; or
2. The building, structure, facility or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or
3. The production or wastewater generating processes of the building, structure, facility or installation are substantially independent of an existing source at the same site. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant, and the extent to which the new facility is engaged in the same general type of activity as the existing source, should be considered.

Construction on a site at which an existing source is located results in a modification rather than a new source if the construction does not create a new building, structure, facility or installation meeting the criteria of 2 or 3 above but otherwise alters, replaces, or adds to existing process or production equipment.

Construction of a new source as defined under this paragraph has commenced if the owner or operator has:

1. Begun, or caused to begin as part of a continuous onsite construction program
 - a. Any placement, assembly, or installation of facilities or equipment, or
 - b. Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

2. Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.

NONDOMESTIC USER means any person who contributes, causes or permits the contribution of nondomestic wastes into the City's POTW, either directly or by indirect sewer discharge.

NONDOMESTIC WASTES means the wastes from industrial processes (including wastes from any sources identified as industrial users as defined in this section), trade or business (including food preparation concerns and businesses operated from a residence), as distinct from domestic or sanitary wastes.

NPDES (denoting National Pollutant Discharge Elimination System) means the denoted system or the permit issued pursuant to Section 402 of the Act (33 U.S.C. 1342).

OIL AND GREASE means oil, fat, grease or other substance measured by standard laboratory method.

OXYGEN DEMAND means the quantity of oxygen utilized in the oxidation of substances in a specified time, at a specified temperature, and under specified conditions.

PASS THROUGH means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

PERSON means any individual, firm, company, association, society, corporation, group, partnership, co-partnership, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.

pH means the logarithm (base 10) of the reciprocal of the concentration of hydrogen ions expressed in grams per liter of solution.

POLLUTANT means any filter backwash, dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt and nondomestic, domestic, municipal, and agricultural waste discharged into water.

POLLUTION means contamination or other alteration of the physical, chemical or biological properties of any water of the State, including change in temperature, taste, color, turbidity or odor of the waters, or discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the State which will or is reasonably certain to create a nuisance or render the waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, industrial, agricultural, recreational or other legitimate beneficial uses, or to wild animals, birds, fish or other aquatic life.

POTW (denoting Publicly Owned Treatment Works) means the treatment works as defined by Section 212 of the Act (33 U.S.C. 1292) which is owned by the State or a municipality, including any devices and systems used in the collection, storage, treatment, recycling, and reclamation of sewage or industrial wastes of a liquid nature and any conveyances which convey wastewater to the POTW wastewater treatment plant. The term also means the municipal entity having jurisdiction over the discharges to and from such a treatment works.

PRETREATMENT means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration can be obtained by physical, chemical or biological processes or process changes or other means, except as prohibited by 40 CFR 403.6(d), as may be amended from time to time.

PRETREATMENT REQUIREMENT means any substantive or procedural requirement contained in the City's approved pretreatment program imposed on a nondomestic user, other than a pretreatment standard.

PRETREATMENT STANDARDS means prohibited discharge standards which appear in Section 7.06.005 of this article, categorical pretreatment standards, pollutant discharge limits promulgated by the Missouri Clean Water

Commission in accordance with RSMo 644.026(16), which apply to industrial users, specific pollutant limitations which appear in Section 7.06.007 of this article, and local limits.

PROPERLY SHREDDED GARBAGE means the wastes from the preparation, cooking, and dispensing of food that have been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than one-half-inch in any dimension.

PUBLIC SEWER means a sewer that is owned by the City of Independence.

SANITARY SEWER means a sewer designed to convey liquid and water-carried wastes from residences, commercial buildings, industrial plants, and institutions to a wastewater treatment plant. A sanitary sewer may also carry minor quantities of ground, storm and surface waters.

SEVERE PROPERTY DAMAGE means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property loss as it pertains to an industrial user does not mean economic loss caused by delays in production.

SEWAGE, sometimes referred to as wastewater, means the liquid and water-carried domestic or nondomestic wastes from residences, commercial buildings, industrial facilities, institutions and other sources, together with any groundwater, surface water, and stormwater that may be present.

SEWER shall mean pipe or conduit that carries wastewater or drainage water.

SIGNIFICANT INDUSTRIAL USER (SIU) means (a) an industrial user subject to categorical pretreatment standards; or (b) any other industrial user that (i) discharges an average of 25,000 gallons per day or more of process waste water into the POTW, or (ii) contributes a process wastestream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant, or (iii) is designated as significant by the Director on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement. A user which meets the criteria of subsection (b) may, nevertheless, be designated as a non-SIU upon a finding, in accordance with 40 CFR 403.3(v)(3) and 403.8(f)(6), that the user has no reasonable potential for adversely affecting the POTW's operation or violating any pretreatment standard or requirement. The Director may determine that an industrial user subject to categorical pretreatment standards is a non-significant categorical industrial user rather than a significant industrial user on a finding that the industrial user never discharges more than 100 gallons per day (gpd) of total categorical wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater, unless specifically included in the pretreatment standard) and the following conditions are met: (a) the industrial user, prior to the Director's finding, has consistently complied with all applicable categorical pretreatment standards and requirements; (b) the industrial user annually submits the certification statement required in Section 7.06.015.O., together with any additional information necessary to support the certification statement; and (c) the industrial user never discharges any untreated concentrated wastewater.

SLUG means any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge.

SPECIFIC POLLUTANT LIMITATIONS means pollutant discharge limitations set forth in Section 7.06.007 of this article. Specific pollutant limitations are separate and distinct from local limits which may be developed from time to time pursuant to 40 CFR 403.5(c), as may be amended from time to time. Specific pollutant limitations are discharge limits established to protect the POTW treatment plant; the sewers, pipes and conveyances which convey wastewater to a POTW treatment plant; and POTW worker health and safety. Specific pollutant limitations may be as stringent as, or more stringent than, local limits which may be developed from time to time.

STANDARD LABORATORY METHODS mean methods of analysis and testing as outlined in 40 CFR Part 136, as may be amended from time to time.

STATE means the State of Missouri.

STORM DRAIN (sometimes termed "storm sewer") means a drain or sewer for conveying stormwater, groundwater, subsurface water, or unpolluted water from any source.

STORM WATER means any flow occurring during or following any form of natural precipitation and resulting from such precipitation, including snowmelt.

SUSPENDED SOLIDS means the total suspended matter that either floats on the surface of, or is in suspension in, water, wastewater, or other liquids, and that is removable by laboratory filtering as prescribed in 40 CFR Part 136, as may be amended from time to time; also referred to as nonfilterable residue.

TECHNICAL REVIEW CRITERIA (TRC) VIOLATIONS mean those violations in which 33 percent or more of the measurements taken for the same pollutant parameter during a six-month period equal or exceed the product of the numeric pretreatment standard or requirement, including instantaneous maximum allowable discharge limits, multiplied by the applicable TRC. (TRC = 1.4 for BOD, suspended solids, fats, oil and grease, and 1.2 for all other pollutants except pH).

UNACCEPTABLE CREDIT RISK means any account that has received two shut off notices within the previous 12-month period, or any account for which an unsatisfactory credit or payment rating has been reported to the City by an outside credit reporting agency.

UNPOLLUTED WATER is water which does not contain any pollutants.

USER means any person who contributes, causes or permits the contribution of wastewater into the City's POTW, either directly or by indirect sewer discharge.

WASTEWATER, sometimes referred to as sewage, means the liquid and water-carried domestic or nondomestic wastes from residences, commercial buildings, industrial facilities, institutions, and other sources, together with any groundwater, surface water, and stormwater that may be present.

WASTEWATER TREATMENT PLANT, or TREATMENT PLANT, means that portion of the POTW designed to provide treatment of wastewater.

WATERS OF THE STATE means all rivers, streams, lakes and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the State which are not entirely confined and located completely upon lands owned, leased or otherwise controlled by a single person or by two or more persons jointly or as tenants in common. These waters also include waters of the United States lying within or adjacent to the State.

B. Abbreviations. The following abbreviations shall have the designated meaning:

BOD =	Biochemical Oxygen Demand
BMP =	Best Management Practice
BMR =	Baseline Monitoring Report
CIU =	Categorical Industrial User
CFR =	Code of Federal Regulations
COD =	Chemical Oxygen Demand
CSR =	Code of State Regulations
EPA =	U.S. Environmental Protection Agency
gpd =	Gallons per day
l =	Liter
MDNR=	Missouri Department of Natural Resources
mg =	Milligrams
mg/l =	Milligrams per liter
MS	Municipal Services Department
NPDES=	National Pollutant Discharge Elimination System

O&M =	Operation and Maintenance
POTW =	Publicly Owned Treatment Works
RCRA =	Resource Conservation and Recovery Act
RSMo =	Revised Statutes of Missouri
SIC =	Standard Industrial Classifications
SIU =	Significant Industrial User
SWDA =	Solid Waste Disposal Act
TRC =	Technical Review Criteria
TSS =	Total Suspended Solids
USC =	United States Code
WPC =	Water Pollution Control

Sec. 7.06.002. Waste disposal control.

- A. It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner any human or animal excrement, garbage, or objectionable waste.
- B. It shall be unlawful to discharge to any storm sewer or waters of the State within the City or in any area under the jurisdiction of said City, any wastewater or other polluted waters which cause or would cause pollution upon entering waters of the State.
- C. The owner(s) of all houses, buildings, or properties used for human occupancy, employment, recreation, or other purposes, situated within the City and abutting on any street, alley, or right-of-way in which there is now located, or may in the future be located, a public sanitary sewer of the City, is hereby required at the owner's(s)' expense to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this article and Chapter 17, Article 11, where said public sewers are available. "Availability" shall be determined by the ~~Public Works~~ Municipal Services Director in accordance with Chapter 17, Article 11, Section 17.11.002.

Sec. 7.06.003. Private wastewater disposal.

- A. Where a public sanitary sewer is not available as defined under the provisions of Chapter 17, Article 11, Section 17.11.002, the building sewer shall be connected to a private wastewater disposal system complying with the provisions of Chapter 17, Article 11, Section 17.11.004 and this section.
- B. At such time as a public sanitary sewer becomes available to a property served by a private wastewater disposal system in accordance with Chapter 17, Article 11, Section 17.11.002, the City will collect sanitary sewer service charges from the owner or occupant of said property as set forth in Article 7, Section 7.07.001.
- C. The owner shall operate and maintain the private wastewater disposal facilities in a sanitary manner at all times, at no expense to the City.
- D. No statement contained in this article shall be construed to interfere with any additional requirements that may be imposed by the City Directors of Public Health, ~~Public Works or Water Pollution Control~~ Municipal Services.
- E. The owner of a private sanitary sewer system connected to the publicly owned treatment works (POTW) shall certify and report, in writing, annually to the ~~Water Pollution Control (WPC)~~ Municipal Services (MS) Department, that the private sanitary sewer system is being maintained. The City shall have the right to inspect and confirm the maintenance of the private system. Any private sanitary sewer system that is not

in reasonably good condition shall require upgrading to a proper condition at no expense to the City. The owner shall provide a compliance schedule for system upgrade to ~~WPC~~ MS for approval.

The owner of a private sanitary sewer system that is not connected to the POTW, but intends to connect to the POTW, shall first provide an engineering inspection report from a registered Missouri Professional Engineer describing the condition of the private sanitary sewer system. If the owner of the private system so chooses, the ~~WPC~~ MS may make the inspection and file the report for a full cost recovery charge, to be quoted in writing by the ~~WPC~~ MS Director at the time of request. In any case, the owner of the private sanitary sewer system shall upgrade any deficiencies noted in said report or provide a compliance schedule to ~~WPC~~ MS for the system upgrade prior to any connection to the POTW. ~~WPC~~ MS must approve of the compliance schedule, in writing, before any connection to the POTW is made.

Sec. 7.06.004. Building sewers and connections.

- A. No unauthorized person shall uncover, make any connection with or opening into, use, alter, or disturb any public sewer or appurtenance thereof unless so authorized in a manner deemed appropriate by the ~~Water Pollution Control~~ Municipal Services Director. The Director of ~~Public Works~~ Municipal Services issues building sewer connection permits in accordance with Chapter 17, Article 11, Section 17.11.003, specifying the location and legal description of the point for which access is granted for connection under the permit. Any uncovering of, tampering with, or entry into the public sewer or appurtenances thereof, except as specifically authorized by permit or by the ~~Water Pollution Control~~ Municipal Services Director may be subject to enforcement action as set forth in Section 7.06.013 of this article.
- B. No person(s) shall make connection of roof downspouts, interior and exterior foundation drains, areaway drains, sump pumps, or other sources of surface runoff or groundwater to a building sewer or building drain, which in turn, is connected directly or indirectly to a public sanitary sewer. The aforesaid notwithstanding, the ~~Water Pollution Control~~ Municipal Services Director may authorize by issuance of a wastewater discharge permit or by other means deemed appropriate, connection of sources of polluted surface drainage or polluted groundwater to a building sewer or building drain or other connection to the public sanitary sewer. Such connections authorized by the ~~Water Pollution Control~~ Municipal Services Director shall not be construed to be in violation of Section 17.11.003.H., Article 11, Chapter 17 of the City Code.

That Section 7.06.007 through 7.06.013 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

Sec. 7.06.007. Specific pollutant limitations.

- A. Except as otherwise provided by a compliance schedule, permit, or other written authorization from the Director, no person shall contribute or cause to be contributed, directly or indirectly, to the POTW, any discharge containing pollutants in excess of instantaneous maximum allowable discharge limits including, but not limited to, the following:

0.10 mg/l of total Arsenic	0.24 mg/l of total Silver
7.7 mg/l of total Barium	5.0 mg/l of total Zinc
0.26 mg/l of total Beryllium	0.10 mg/l of total Cyanide
0.20 mg/l of total Cadmium	5.0 mg/l of Phenols
0.20 mg/l of hexavalent Chromium	50 mg/l of Ammonia
2.0 mg/l of total Chromium	5.0 mg/l of Sulfides
1.0 mg/l of total Copper	300 mg/l of total Halides
25 mg/l of total Iron	5.0 mg/l of free Chlorine

0.10 mg/l of total Lead	25 mg/l of total Recoverable Petroleum Hydrocarbons
0.0016 mg/l of total Mercury	100 mg/l of oil and grease
1.0 mg/l of total Nickel	0.0048 mg/l of total Selenium

Concentrations apply at the point where the wastewater is discharged to the POTW unless otherwise specified by permit. At the Director's discretion, mass limitations may be imposed in addition to or in place of the concentration based limitations above.

- B. The Director may develop specific limits on a case-by-case basis for any temporary discharge of wastewaters resulting from the cleanup or closure of a hazardous waste site under the authority of the Missouri Hazardous Waste Management Law, the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), or the Toxic Substances Control Act (TSCA), or for other temporary discharges.
- C. The City reserves the right to establish in wastewater discharge permits, or in other documents authorizing discharge, more stringent standards or requirements on discharges to the POTW if deemed necessary.
- D. Any non-domestic user that cannot meet the specific pollutant limitations listed in Section 7.06.007.A., or other requirements of this article, may submit to the ~~Water Pollution Control~~ **Municipal Services** Director a written request for a waiver of specific pollutant limitations or of other requirements. For significant industrial users or other nondomestic users subject to wastewater discharge permit requirements pursuant to Section 7.06.014, the Director may grant a waiver of specific pollutant limitations or of other requirements via a wastewater discharge permit or modification to an existing wastewater discharge permit. For nondomestic users not subject to wastewater discharge permit requirements, the Director may grant a waiver of specific pollutant limitations or of other requirements of this article via a special use authorization. The Director will evaluate the information provided by the nondomestic user and will consider all relevant factors, including but not limited to the following: Volume of wastewater, requested pollutant concentration(s), destination of wastewater, and current pollutant capacity. The Director may require the nondomestic user to furnish additional information. The Director may deny any application for a waiver. The filing of a request for a waiver of specific pollutant limitations or of other requirements does not stay or otherwise change the nondomestic user's legal obligations pending issuance or denial of the waiver. Issuance of a waiver via a wastewater discharge permit or permit modification pursuant to Section 7.06.014 or via a special use authorization shall not be construed as a waiver of the POTW's local limits, but as a change in the allowable concentration of discharge to the POTW for a particular user via a special agreement. Concentration of discharge to the POTW allowable by wastewater discharge permit or special use authorization is limited to mass loadings which will not cause interference or pass through. The Director will take into consideration the local limits of neighboring jurisdictions when issuing a special use authorization to a nondomestic user to discharge to a sewer tributary to another jurisdiction. The following conditions will apply to all waivers granted via wastewater discharge permits, permit modifications, or special use authorizations:
 - 1. The duration of the waiver will be specified and shall in no event exceed five years, and application for renewal must be made at least 60 days before expiration.
 - 2. Any violation of permit or special use authorization conditions may result in immediate revocation of the waiver or in other enforcement action pursuant to Section 7.06.013.
 - 3. The permit or special use authorization is not transferable without approval from the Director.
 - 4. Waiver of applicable Federal Categorical Pretreatment Standards is prohibited.

Sec. 7.06.008. Accidental and other slug discharges.

- A. Each nondomestic user shall provide protection from accidental discharge of prohibited materials or other substances regulated by this article. The Director may require any nondomestic user to submit detailed plans to the Director for review showing facilities and operating procedures to provide protection from accidental discharge of prohibited materials. These plans shall be modified to meet the Director's comments

within the time frame established by the Director. If required, facilities shall be constructed according to plans approved by the Director. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the user's own cost and expense.

- B. The Director will evaluate, at least every two years, whether each significant industrial user needs a slug control plan to control any discharges of a non-routine, episodic nature, including non-customary batch discharges as well as accidental discharges. The Director may require nondomestic users which are not significant industrial users to implement an approved slug control plan. The slug control plan, if required, shall be submitted to the Director for review. The slug control plan shall be modified to meet the Director's comments within the time frame established by the Director. Alternatively, the Director may develop such a plan for any nondomestic user. The nondomestic user shall comply with the slug control plan upon its approval.

If required, the slug control plan shall include, at a minimum, the following:

1. Description of discharge practices, including non-routine batch discharges; and
2. Description of stored chemicals; and
3. Procedures for immediately notifying the POTW of any accidental or other slug discharge, including any discharge which would violate any of the prohibited discharges in Section 7.06.005 of this article, with procedures for follow-up written notification within five days; and
4. If necessary, procedures to prevent adverse impact from any accidental or slug discharge. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, measures for containing toxic organic pollutants (including solvents) and/or measures and equipment for emergency response.

The Director may also require the slug control plan to include any of the following:

1. Description of the location of stored chemicals, which may include a site plan; and,
 2. Spill prevention through proper initial selection and construction of equipment; equipment operation, maintenance, and inspection procedures; personnel training and supervision; and security measures to prevent vandalism; and
 3. Spill containment through provision of secondary containment devices or diversionary structures; and
 4. Spill clean-up manpower and materials; and
 5. Measures for containing spills of raw materials, products and intermediate product and wastes; and
 6. Any other measures deemed necessary by the Director to adequately control slug discharges.
- C. In the case of a discharge that could cause problems to the POTW, including an accidental or other slug discharge, it is the responsibility of the user to immediately telephone and notify the POTW of the incident. The notification shall include location of discharge, type of waste, concentration, volume, and corrective actions.
- D. Within five days following an accidental or other slug discharge the user shall submit to the ~~Water Pollution Control~~ **Municipal Services** Director, a detailed written report describing the cause of the discharge and the measures to be taken by the user to prevent similar future occurrences. Such notification shall not relieve the user of any expense, loss, damage, or other liability which may be incurred as a result of damage to the POTW, fish kills, or any other damage to person or property; nor shall such notification relieve the user of any fines, civil penalties, or other liability which may be imposed by this article or other applicable law.
- F. Each significant industrial user is required to notify the ~~Water Pollution Control~~ **Municipal Services** Director immediately of any changes at its facility affecting potential for a slug discharge.

Sec. 7.06.009. Extra strength wastes.

- A. Any wastewater having (a) a COD greater than 400 mg/l, or (b) a BOD greater than 225 mg/l, or (c) more than 250 mg/l of suspended solids, or (d) an average daily flow greater than 25,000 gallons per day, shall be subject to the review of the ~~Water Pollution Control~~ Municipal Services Director. Where necessary in the opinion of the ~~Water Pollution Control~~ Municipal Services Director, the nondomestic user shall provide, at his/her expense, such pretreatment as may be necessary to reduce the oxygen demand, reduce the suspended solids, or control the quantities and rates of discharge of such wastewater.

Sec. 7.06.010. Pretreatment of nondomestic waste.

- A. Nondomestic users shall provide necessary wastewater pretreatment as required to comply with this article and achieve compliance with all applicable Federal, State, and local pretreatment standards and requirements within the time limitations as specified by the applicable Federal, State, or local regulations. Any facilities required to pretreat wastewater to a level acceptable to the POTW shall be provided, operated, and maintained continuously in satisfactory and effective operation by the user at his/her expense. Detailed plans showing the pretreatment facilities and operating procedures shall be approved by the ~~Water Pollution Control~~ Municipal Services Director before construction of the facility. The review of such plans and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the POTW under the provisions of this article. Any subsequent significant changes in the pretreatment facilities or method of operation shall be reported to and be acceptable to the Director prior to the user's initiation of the changes, in accordance with Section 7.06.015.G. The Director may require a nondomestic user to conduct a compatibility study prior to the introduction of a new waste to the POTW to determine whether such waste is acceptable to the POTW.
- B. The City shall annually publish in the City's largest newspaper, a list of the significant industrial users which, at any time during the previous 12 months, were in significant noncompliance with applicable pretreatment standards or requirements. If deemed appropriate by the Director, the City may also publish any other nondomestic users identified to be in significant violation. For purposes of this provision, a significant violation is a violation which remains uncorrected 45 days after the user receives written notification of noncompliance; which is a part of a pattern of noncompliance over a 12 month period; which involves a failure to accurately report noncompliance; or which resulted in the POTW exercising its emergency authority. The term significant noncompliance shall mean:
1. Chronic violations of wastewater discharge limits or requirements, defined herein as those in which 66 percent or more of the measurements taken for the same pollutant parameter during a six-month period exceed (by any amount) a numeric pretreatment standard or requirement, including instantaneous limits, for the same pollutant parameter by any amount; or,
 2. Technical Review Criteria (TRC) violations, defined here as those in which 33 percent or more of the measurements taken for the same pollutant parameter during a six-month period equals or exceeds the product of the numeric pretreatment standard or requirement, including instantaneous limits, multiplied by the applicable TRC. The TRC for fats, oils and grease; BOD; and total suspended solids = 1.4. For all other pollutants except pH, the TRC = 1.2; or,
 3. Any other discharge violation that the Director believes has caused, alone or in combination with other discharges, interference or pass through, including endangering the health or welfare of City personnel or the general public; or,
 4. Any discharge of pollutants that has caused imminent endangerment to the public or to the environment, or has resulted in the City's exercise of emergency authority to halt or prevent such a discharge; or,
 5. Failure to meet, within 90 days of the scheduled date, a compliance schedule milestone contained in a wastewater discharge permit or an enforcement order for starting construction, completing construction, or attaining final compliance; or,
 6. Failure to provide 30 days after the due date, any required reports, including baseline monitoring reports, 90-day compliance reports, periodic self-monitoring reports, and reports on compliance with compliance schedules; or,
 7. Failure to accurately report noncompliance; or,

- C. The ~~Water Pollution Control~~ **Municipal Services** Director may impose mass limitations on nondomestic users where the imposition of mass limitations are appropriate. In such cases, the reports required by this article shall indicate the mass of pollutants regulated by Pretreatment Standards in the effluent of the user.
- D. Every significant industrial user, shall complete a Wastewater Characteristics Survey periodically when requested by the ~~Water Pollution Control~~ **Municipal Services** Director. The form will be supplied by the City and shall be completed and returned by the user. The Director may also require any nondomestic user which is not a significant industrial user to periodically complete a Wastewater Characteristics Survey. Failure to complete the required Survey is a violation of this article and may be considered reasonable grounds for terminating service to the significant industrial user or other nondomestic user. When required by the Director, new nondomestic users shall complete a Wastewater Characteristics Survey as part of the application for an occupational license. The form will be supplied by the City and must be returned before an occupational license can be issued. The user will be required to supply any and all information deemed by the ~~Water Pollution Control~~ **Municipal Services** Department to be necessary to evaluate compliance with the Federal Categorical Pretreatment Standards or this article including, but not limited to: Name; address, location; Standard Industrial Classification (SIC) code, wastewater characteristics and constituents, time and duration of contribution, site plans with details to show all building sewers and connections, modifications necessary to meet Pretreatment Standards, types and amounts of raw materials, number of employees and hours of operation.
- E. Grease, oil and sand interceptors shall be provided when, in the opinion of the ~~Water Pollution Control~~ **Municipal Services** Director, they are necessary for proper handling of liquid wastes containing oil and grease in excessive amounts as specified in Section 7.06.005.A.4., and Section 7.06.007.A., or any flammable waste, sand or other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the ~~Water Pollution Control~~ **Municipal Services** Director, and shall be located as to be readily and easily accessible for cleaning and inspection.

In the maintaining of these interceptors, the user shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain records in accordance with Section 7.06.015.L. and N., of the dates, and means of disposal which are subject to review by the ~~Water Pollution Control~~ **Municipal Services** Director. Any removal and hauling of the collected materials not performed by the user's personnel must be performed by appropriately licensed waste disposal firms.

Sec. 7.06.011. Monitoring of nondomestic wastes.

- A. When required by the ~~Water Pollution Control~~ **Municipal Services** Director, any nondomestic user shall install a suitable structure together with such necessary meters and other appurtenances in the building sewer to facilitate observation, sampling, and measurement of the wastes. Such structures, when required, shall be accessibly and safely located and shall be constructed in accordance with plans approved by the Director. The structure shall be installed by the user at his/her expense and shall be maintained by him/her so as to be safe and accessible at all times. The City reserves the right to design and construct a suitable structure and charge to the user the appropriate costs. All devices used by the nondomestic user to measure wastewater flow and quality shall be calibrated periodically as needed to ensure their accuracy.
- No statement in this article restricts the connection of garbage grinders in homes to the sanitary sewer.
- B. The ~~Water Pollution Control~~ **Municipal Services** Director may require a nondomestic user of sewer services to provide information needed to determine compliance with this article. These requirements may include, but are not limited to the following:
 1. Wastewater discharge peak rate and volume over a specified time period.
 2. Laboratory analysis of wastewater.
 3. Information on raw materials, processed, and products affecting wastewater volume and quality.
 4. Quantity and disposition of specific liquid, sludge, oil, solvent, or other materials important to sewer use control.
 5. A plot plan of sewers of the user's property showing sewer and pretreatment facility location.

- 6. Details of wastewater pretreatment facilities.
- 7. Details of systems to prevent and control the losses of materials through spills to the municipal sewer.
- C. Any measurements, samplings, tests and analysis required by this article shall be performed at the nondomestic user's own expense. The results must be certified by a qualified professional. Any results submitted by a user which are not certified may be deemed inconclusive for purposes of demonstrating user compliance with the applicable standards.
- D. All measurements, tests and analyses, including sampling techniques, of the characteristics of wastewaters to be submitted as part of a wastewater discharge permit application or report shall be performed in accordance with the techniques prescribed in 40 CFR Part 136, as may be amended from time to time, or 10 CSR 20-7.015(9), as may be amended from time to time, unless otherwise specified in an applicable categorical pretreatment standard. If 40 CFR Part 136 or 10 CSR 20-7.015(9) does not contain sampling or analytical techniques for the pollutant in question, or where Part 136 or 10 CSR 20-7.015(9) sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses must be performed in accordance with procedures approved by the Director in accordance with applicable Federal, State, or local regulations.
- E. Samples for oil and grease, temperature, pH, cyanide, phenol, sulfide, and volatile organic compounds must be obtained using grab collection techniques. Unless otherwise provided by the Director, composite collection techniques must be used for all other wastewater samples.
- F. All wastewater samples must be representative of the nondomestic user's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean and maintained in good working order at all times. The failure of a nondomestic user to keep its monitoring facility in good working order shall not be grounds for the nondomestic user to claim that sample results are unrepresentative of its discharge.
- G. If a nondomestic user subject to reporting requirements monitors any pollutant more frequently than required by POTW using the procedures prescribed in paragraph E. of this section, the results of this monitoring shall be included in the report.
- H. Except as otherwise provided by the Director, compliance with local pretreatment standards and requirements shall be determined by sampling representative of the point where wastewater is discharged to the POTW. Compliance with Federal Categorical Pretreatment Standards shall be determined by sampling representative of the discharge from the regulated process, unless otherwise provided in the applicable categorical standard.
- I. Monitoring shall be conducted by significant industrial users in accordance with Section 7.06.015.D., at least twice a year, except as specified in Section 7.06.015.D.2.—D.4. The Director may require more frequent monitoring.
- J. No statement contained in the article shall be construed as preventing the ~~Water Pollution Control~~ **Municipal Services** Director or his/her duly authorized representative from performing any measurement, test or analysis or collecting any sample.

Sec. 7.06.012. Powers and authority of inspectors.

- A. The ~~Water Pollution Control~~ **Municipal Services** Director, or any authorized representative, bearing proper credentials and identification, shall be permitted to enter all properties for the purposes of inspection, records examination and copying, observation, measurements, sampling, and testing pertinent to discharge to the community system, and for repair and maintenance of any portion of the POTW facilities situated on said properties in accordance with the provisions of this article.
- B. Information and data on a user, obtained from reports, questionnaires, permit applications, permits and monitoring programs and from inspections, shall be available to the public or other governmental agency without restriction, unless the user specifically requests and is able to demonstrate to the satisfaction of the Director that the release of such information would divulge information, processes or methods of production entitled to protection as confidential information according to the criteria set forth in 40 CFR 2.208 and 2.302, as may be amended from time to time.

When requested by the person furnishing a report, the portions of a report which might disclose confidential information shall not be made available for inspection by the public. Wastewater constituents and characteristics will not be recognized as confidential information. Information accepted by the City as confidential shall be made available upon request to any agency meeting the requirements of Section 308 of the Act, including officers, employees or authorized representatives of the United States concerned with carrying out the Act, bound by the confidentiality rules in 40 CFR Part 2, as may be amended from time to time.

- C. While performing the necessary work on private properties referred to in Section 7.06.012.A., the ~~Water Pollution Control~~ **Municipal Services** Director or duly authorized representatives shall observe all safety rules applicable to the premises established by the company, and the company shall be held harmless for injury or death to the Director or authorized representatives, and the City shall indemnify the company against loss or damage to its property by City employees and against liability claims and demands for personal injury or property damage asserted against the company by City employees and growing out of the gauging and sampling operation, except as such may be caused by negligence or failure of the company to maintain safe conditions as required in Section 7.06.011.A.

Sec. 7.06.013. Enforcement of the sewer use regulations.

- A. No person(s) shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance or equipment which is a part of the POTW facilities, unless otherwise authorized by the Director. The Director may authorize entry, uncovering, disconnection, blockage, removal, replacement, or destruction of any part of the POTW when, in his/her opinion, it is in the best interests of the City. Any person(s) violating this provision may be subject to immediate arrest under charge of disorderly conduct and/or may be subject to other enforcement action as set forth in this section. Nothing in this paragraph shall preclude the City from pursuing action in civil court to recover its damages incurred or to obtain a court order enjoining further damage.
- B. When any person has violated or is violating this article, a wastewater discharge permit or order issued hereunder, or any other pretreatment requirement:
1. The Director may serve upon said person a written notice of violation. Wherever the term "notice" is used throughout this section it shall mean service by personal delivery, by certified mail (return receipt requested), or by posting on the property of the person being notified. Failure to accept certified mail within ten days constitutes acceptance. Said person shall submit to the Director an explanation of the violation and a plan for the satisfactory correction and prevention thereof within ten days of the receipt of the notice, unless otherwise specified by the Director. The plan shall include specific actions which will be taken to remedy the violation. Submission of this plan in no way relieves said person of liability for any violations occurring before or after receipt of the notice of violation.
 2. The Director may enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any person responsible for noncompliance. The agreement may include specific action to be taken by said person to correct the noncompliance within a specified time period. The agreement will have the same force and effect as an administrative order issued pursuant to Section 7.06.013.B.4. and B.5. below.
 3. The Director may order any person who causes or contributes to such violation(s) to appear before the Director and show cause why a proposed enforcement action should not be taken. Notice shall be served on said person specifying the time and place for the hearing, the enforcement action being proposed, the reasons for such action, and a direction that the person show cause why the proposed enforcement action should not be taken. The notice of the hearing shall be served at least ten days prior to the hearing. Such notice may be served on any authorized representative of said person. Whether or not said person appears as ordered, immediate enforcement action may be pursued following the hearing date.
 4. The Director may issue an order to the person responsible for the discharge directing that adequate treatment facilities, devices, or other related appurtenances be installed and properly operated within a specified time frame. This compliance order may also contain other requirements to address noncompliance, including, but not limited to, additional self-monitoring and management practices designed to minimize the amount of pollutants discharged to the sanitary or storm sewer. A compliance order does not extend the deadline for compliance established for a Federal pretreatment standard or

requirement, nor does a compliance order release the user of liability for any violation, including any continuing violation. Violation of any terms of a compliance order issued hereunder shall constitute a violation of this article subject to the enforcement remedies authorized herein.

5. The Director may issue an order to the person directing him/her to cease and desist all such violations and directing him/her to:
 - a. Immediately comply with all requirements.
 - b. Take such appropriate remedial or preventative action as may be needed to properly address a continuing or threatened violation, including halting operations and/or terminating the discharge.
6. The Director may immediately suspend the wastewater treatment service and/or a Sewer Connection Permit after informal communication to the user when such suspension is necessary, in the opinion of the Director, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, or cause the POTW to violate any condition of its NPDES Permit or other operation permits as may be issued by the Federal or State government.
 - a. Any person informed of a suspension of the wastewater treatment service and/or the Sewer Connection Permit shall immediately stop or eliminate the contribution. In the event of a failure of the person to comply voluntarily with the suspension order, the City shall take such steps as deemed necessary including immediate severance of the sewer connection and/or termination of water service, to prevent or minimize damage to the POTW system or endangerment to any individuals.
 - b. The Director shall reinstate the wastewater treatment service upon: (1) demonstration to the satisfaction of the Director that the period of endangerment has passed; (2) a detailed written statement submitted by the user describing the causes of the harmful contribution and the measures taken to prevent any future occurrence; and (3) reapplication for a sewer connection permit and payment of the required fee, as specified in Section 7.06.004.B., unless the termination proceedings set forth in Section 7.06.013.B.7., are initiated against the user. Nothing in this section shall be interpreted as requiring a hearing prior to any emergency suspension under this section.
7. Wastewater discharge permits may be revoked or denied for cause as described elsewhere in this article. In addition, any user found to be in violation of this article, any wastewater discharge permit, or order issued hereunder, may be subject to termination of sewer service. Such user will be notified of the proposed termination of its service and be offered an opportunity to show cause under Section 7.06.013.B.3., of this article why the proposed action should not be taken.
8. The Director may petition the Circuit Court for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the wastewater discharge permit, order, or other requirement imposed by this article on activities of said person. Such other action as appropriate for legal and/or equitable relief may also be sought by the City.
9. Water service to the user may be severed upon the authorization of the ~~WPC~~ MS Director. ~~The WPC Director shall notify the Water Department that the premises is no longer entitled to service.~~ Service will only recommence, at the user's expense, after it has satisfactorily demonstrated its ability to comply.
10. The occupational license held by a business may be revoked upon the authorization of the ~~WPC~~ MS Director. ~~The WPC MS Director shall notify the Finance Department that the business is no longer entitled to hold an occupational license.~~ Such license shall only be reissued after the business has satisfactorily demonstrated its ability to comply.

Sec. 7.06.011. Monitoring of nondomestic wastes.

- A. When required by the ~~Water Pollution Control~~ Municipal Services Director, any nondomestic user shall install a suitable structure together with such necessary meters and other appurtenances in the building sewer to facilitate observation, sampling, and measurement of the wastes. Such structures, when required, shall be accessibly and safely located and shall be constructed in accordance with plans approved by the Director. The structure shall be installed by the user at his/her expense and shall be maintained by him/her so as to be safe and accessible at all times. The City reserves the right to design and construct a suitable

structure and charge to the user the appropriate costs. All devices used by the nondomestic user to measure wastewater flow and quality shall be calibrated periodically as needed to ensure their accuracy.

No statement in this article restricts the connection of garbage grinders in homes to the sanitary sewer.

- B. The Water Pollution Control Municipal Services Director may require a nondomestic user of sewer services to provide information needed to determine compliance with this article. These requirements may include, but are not limited to the following:
1. Wastewater discharge peak rate and volume over a specified time period.
 2. Laboratory analysis of wastewater.
 3. Information on raw materials, processed, and products affecting wastewater volume and quality.
 4. Quantity and disposition of specific liquid, sludge, oil, solvent, or other materials important to sewer use control.
 5. A plot plan of sewers of the user's property showing sewer and pretreatment facility location.
 6. Details of wastewater pretreatment facilities.
 7. Details of systems to prevent and control the losses of materials through spills to the municipal sewer.
- C. Any measurements, samplings, tests and analysis required by this article shall be performed at the nondomestic user's own expense. The results must be certified by a qualified professional. Any results submitted by a user which are not certified may be deemed inconclusive for purposes of demonstrating user compliance with the applicable standards.
- D. All measurements, tests and analyses, including sampling techniques, of the characteristics of wastewaters to be submitted as part of a wastewater discharge permit application or report shall be performed in accordance with the techniques prescribed in 40 CFR Part 136, as may be amended from time to time, or 10 CSR 20-7.015(9), as may be amended from time to time, unless otherwise specified in an applicable categorical pretreatment standard. If 40 CFR Part 136 or 10 CSR 20-7.015(9) does not contain sampling or analytical techniques for the pollutant in question, or where Part 136 or 10 CSR 20-7.015(9) sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses must be performed in accordance with procedures approved by the Director in accordance with applicable Federal, State, or local regulations.
- E. Samples for oil and grease, temperature, pH, cyanide, phenol, sulfide, and volatile organic compounds must be obtained using grab collection techniques. Unless otherwise provided by the Director, composite collection techniques must be used for all other wastewater samples.
- F. All wastewater samples must be representative of the nondomestic user's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean and maintained in good working order at all times. The failure of a nondomestic user to keep its monitoring facility in good working order shall not be grounds for the nondomestic user to claim that sample results are unrepresentative of its discharge.
- G. If a nondomestic user subject to reporting requirements monitors any pollutant more frequently than required by POTW using the procedures prescribed in paragraph E. of this section, the results of this monitoring shall be included in the report.
- H. Except as otherwise provided by the Director, compliance with local pretreatment standards and requirements shall be determined by sampling representative of the point where wastewater is discharged to the POTW. Compliance with Federal Categorical Pretreatment Standards shall be determined by sampling representative of the discharge from the regulated process, unless otherwise provided in the applicable categorical standard.
- I. Monitoring shall be conducted by significant industrial users in accordance with Section 7.06.015.D., at least twice a year, except as specified in Section 7.06.015.D.2.—D.4. The Director may require more frequent monitoring.

- J. No statement contained in the article shall be construed as preventing the ~~Water Pollution Control~~ **Municipal Services** Director or his/her duly authorized representative from performing any measurement, test or analysis or collecting any sample.

Sec. 7.06.012. Powers and authority of inspectors.

- A. The ~~Water Pollution Control~~ **Municipal Services** Director, or any authorized representative, bearing proper credentials and identification, shall be permitted to enter all properties for the purposes of inspection, records examination and copying, observation, measurements, sampling, and testing pertinent to discharge to the community system, and for repair and maintenance of any portion of the POTW facilities situated on said properties in accordance with the provisions of this article.
- B. Information and data on a user, obtained from reports, questionnaires, permit applications, permits and monitoring programs and from inspections, shall be available to the public or other governmental agency without restriction, unless the user specifically requests and is able to demonstrate to the satisfaction of the Director that the release of such information would divulge information, processes or methods of production entitled to protection as confidential information according to the criteria set forth in 40 CFR 2.208 and 2.302, as may be amended from time to time.

When requested by the person furnishing a report, the portions of a report which might disclose confidential information shall not be made available for inspection by the public. Wastewater constituents and characteristics will not be recognized as confidential information. Information accepted by the City as confidential shall be made available upon request to any agency meeting the requirements of Section 308 of the Act, including officers, employees or authorized representatives of the United States concerned with carrying out the Act, bound by the confidentiality rules in 40 CFR Part 2, as may be amended from time to time.

- C. While performing the necessary work on private properties referred to in Section 7.06.012.A., the ~~Water Pollution Control~~ **Municipal Services** Director or duly authorized representatives shall observe all safety rules applicable to the premises established by the company, and the company shall be held harmless for injury or death to the Director or authorized representatives, and the City shall indemnify the company against loss or damage to its property by City employees and against liability claims and demands for personal injury or property damage asserted against the company by City employees and growing out of the gauging and sampling operation, except as such may be caused by negligence or failure of the company to maintain safe conditions as required in Section 7.06.011.A.

Sec. 7.06.013. Enforcement of the sewer use regulations.

- A. No person(s) shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance or equipment which is a part of the POTW facilities, unless otherwise authorized by the Director. The Director may authorize entry, uncovering, disconnection, blockage, removal, replacement, or destruction of any part of the POTW when, in his/her opinion, it is in the best interests of the City. Any person(s) violating this provision may be subject to immediate arrest under charge of disorderly conduct and/or may be subject to other enforcement action as set forth in this section. Nothing in this paragraph shall preclude the City from pursuing action in civil court to recover its damages incurred or to obtain a court order enjoining further damage.
- B. When any person has violated or is violating this article, a wastewater discharge permit or order issued hereunder, or any other pretreatment requirement:
1. The Director may serve upon said person a written notice of violation. Wherever the term "notice" is used throughout this section it shall mean service by personal delivery, by certified mail (return receipt requested), or by posting on the property of the person being notified. Failure to accept certified mail within ten days constitutes acceptance. Said person shall submit to the Director an explanation of the violation and a plan for the satisfactory correction and prevention thereof within ten days of the receipt of the notice, unless otherwise specified by the Director. The plan shall include specific actions which will be taken to remedy the violation. Submission of this plan in no way relieves said person of liability for any violations occurring before or after receipt of the notice of violation.
 2. The Director may enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any person responsible for noncompliance. The agreement

may include specific action to be taken by said person to correct the noncompliance within a specified time period. The agreement will have the same force and effect as an administrative order issued pursuant to Section 7.06.013.B.4. and B.5. below.

3. The Director may order any person who causes or contributes to such violation(s) to appear before the Director and show cause why a proposed enforcement action should not be taken. Notice shall be served on said person specifying the time and place for the hearing, the enforcement action being proposed, the reasons for such action, and a direction that the person show cause why the proposed enforcement action should not be taken. The notice of the hearing shall be served at least ten days prior to the hearing. Such notice may be served on any authorized representative of said person. Whether or not said person appears as ordered, immediate enforcement action may be pursued following the hearing date.
4. The Director may issue an order to the person responsible for the discharge directing that adequate treatment facilities, devices, or other related appurtenances be installed and properly operated within a specified time frame. This compliance order may also contain other requirements to address noncompliance, including, but not limited to, additional self-monitoring and management practices designed to minimize the amount of pollutants discharged to the sanitary or storm sewer. A compliance order does not extend the deadline for compliance established for a Federal pretreatment standard or requirement, nor does a compliance order release the user of liability for any violation, including any continuing violation. Violation of any terms of a compliance order issued hereunder shall constitute a violation of this article subject to the enforcement remedies authorized herein.
5. The Director may issue an order to the person directing him/her to cease and desist all such violations and directing him/her to:
 - a. Immediately comply with all requirements.
 - b. Take such appropriate remedial or preventative action as may be needed to properly address a continuing or threatened violation, including halting operations and/or terminating the discharge.
6. The Director may immediately suspend the wastewater treatment service and/or a Sewer Connection Permit after informal communication to the user when such suspension is necessary, in the opinion of the Director, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, or cause the POTW to violate any condition of its NPDES Permit or other operation permits as may be issued by the Federal or State government.
 - a. Any person informed of a suspension of the wastewater treatment service and/or the Sewer Connection Permit shall immediately stop or eliminate the contribution. In the event of a failure of the person to comply voluntarily with the suspension order, the City shall take such steps as deemed necessary including immediate severance of the sewer connection and/or termination of water service, to prevent or minimize damage to the POTW system or endangerment to any individuals.
 - b. The Director shall reinstate the wastewater treatment service upon: (1) demonstration to the satisfaction of the Director that the period of endangerment has passed; (2) a detailed written statement submitted by the user describing the causes of the harmful contribution and the measures taken to prevent any future occurrence; and (3) reapplication for a sewer connection permit and payment of the required fee, as specified in Section 7.06.004.B., unless the termination proceedings set forth in Section 7.06.013.B.7., are initiated against the user. Nothing in this section shall be interpreted as requiring a hearing prior to any emergency suspension under this section.
7. Wastewater discharge permits may be revoked or denied for cause as described elsewhere in this article. In addition, any user found to be in violation of this article, any wastewater discharge permit, or order issued hereunder, may be subject to termination of sewer service. Such user will be notified of the proposed termination of its service and be offered an opportunity to show cause under Section 7.06.013.B.3., of this article why the proposed action should not be taken.

8. The Director may petition the Circuit Court for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the wastewater discharge permit, order, or other requirement imposed by this article on activities of said person. Such other action as appropriate for legal and/or equitable relief may also be sought by the City.
9. Water service to the user may be severed upon the authorization of the ~~WPC~~ MS Director. ~~The WPC Director shall notify the Water Department that the premises is no longer entitled to service.~~ Service will only recommence, at the user's expense, after it has satisfactorily demonstrated its ability to comply.
10. The occupational license held by a business may be revoked upon the authorization of the ~~WPC~~ MS Director. ~~The WPC MS Director shall notify the Finance Department that the business is no longer entitled to hold an occupational license.~~ Such license shall only be reissued after the business has satisfactorily demonstrated its ability to comply.

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- A. ~~The Water Pollution Control~~ Municipal Services Director, or any authorized representative, bearing proper credentials and identification, shall be permitted to enter all properties for the purposes of inspection, records examination and copying, observation, measurements, sampling, and testing pertinent to discharge to the community system, and for repair and maintenance of any portion of the POTW facilities situated on said properties in accordance with the provisions of this article.
- B. Information and data on a user, obtained from reports, questionnaires, permit applications, permits and monitoring programs and from inspections, shall be available to the public or other governmental agency without restriction, unless the user specifically requests and is able to demonstrate to the satisfaction of the Director that the release of such information would divulge information, processes or methods of production entitled to protection as confidential information according to the criteria set forth in 40 CFR 2.208 and 2.302, as may be amended from time to time.

When requested by the person furnishing a report, the portions of a report which might disclose confidential information shall not be made available for inspection by the public. Wastewater constituents and characteristics will not be recognized as confidential information. Information accepted by the City as confidential shall be made available upon request to any agency meeting the requirements of Section 308 of the Act, including officers, employees or authorized representatives of the United States concerned with carrying out the Act, bound by the confidentiality rules in 40 CFR Part 2, as may be amended from time to time.

- C. While performing the necessary work on private properties referred to in Section 7.06.012.A., the ~~Water Pollution Control~~ Municipal Services Director or duly authorized representatives shall observe all safety rules applicable to the premises established by the company, and the company shall be held harmless for injury or death to the Director or authorized representatives, and the City shall indemnify the company against loss or damage to its property by City employees and against liability claims and demands for personal injury or property damage asserted against the company by City employees and growing out of the gauging and sampling operation, except as such may be caused by negligence or failure of the company to maintain safe conditions as required in Section 7.06.011.A.

Sec. 7.06.013. Enforcement of the sewer use regulations.

- A. No person(s) shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance or equipment which is a part of the POTW facilities, unless otherwise authorized by the Director. The Director may authorize entry, uncovering, disconnection, blockage, removal, replacement, or destruction of any part of the POTW when, in his/her opinion, it is in the best interests of the City. Any person(s) violating this provision may be subject to immediate arrest under charge of disorderly conduct and/or may be subject to other enforcement action as set forth in this section. Nothing in this paragraph shall preclude the City from pursuing action in civil court to recover its damages incurred or to obtain a court order enjoining further damage.
- B. When any person has violated or is violating this article, a wastewater discharge permit or order issued hereunder, or any other pretreatment requirement:

1. The Director may serve upon said person a written notice of violation. Wherever the term "notice" is used throughout this section it shall mean service by personal delivery, by certified mail (return receipt requested), or by posting on the property of the person being notified. Failure to accept certified mail within ten days constitutes acceptance. Said person shall submit to the Director an explanation of the violation and a plan for the satisfactory correction and prevention thereof within ten days of the receipt of the notice, unless otherwise specified by the Director. The plan shall include specific actions which will be taken to remedy the violation. Submission of this plan in no way relieves said person of liability for any violations occurring before or after receipt of the notice of violation.
2. The Director may enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any person responsible for noncompliance. The agreement may include specific action to be taken by said person to correct the noncompliance within a specified time period. The agreement will have the same force and effect as an administrative order issued pursuant to Section 7.06.013.B.4. and B.5. below.
3. The Director may order any person who causes or contributes to such violation(s) to appear before the Director and show cause why a proposed enforcement action should not be taken. Notice shall be served on said person specifying the time and place for the hearing, the enforcement action being proposed, the reasons for such action, and a direction that the person show cause why the proposed enforcement action should not be taken. The notice of the hearing shall be served at least ten days prior to the hearing. Such notice may be served on any authorized representative of said person. Whether or not said person appears as ordered, immediate enforcement action may be pursued following the hearing date.
4. The Director may issue an order to the person responsible for the discharge directing that adequate treatment facilities, devices, or other related appurtenances be installed and properly operated within a specified time frame. This compliance order may also contain other requirements to address noncompliance, including, but not limited to, additional self-monitoring and management practices designed to minimize the amount of pollutants discharged to the sanitary or storm sewer. A compliance order does not extend the deadline for compliance established for a Federal pretreatment standard or requirement, nor does a compliance order release the user of liability for any violation, including any continuing violation. Violation of any terms of a compliance order issued hereunder shall constitute a violation of this article subject to the enforcement remedies authorized herein.
5. The Director may issue an order to the person directing him/her to cease and desist all such violations and directing him/her to:
 - a. Immediately comply with all requirements.
 - b. Take such appropriate remedial or preventative action as may be needed to properly address a continuing or threatened violation, including halting operations and/or terminating the discharge.
6. The Director may immediately suspend the wastewater treatment service and/or a Sewer Connection Permit after informal communication to the user when such suspension is necessary, in the opinion of the Director, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, or cause the POTW to violate any condition of its NPDES Permit or other operation permits as may be issued by the Federal or State government.
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 - b. The Director shall reinstate the wastewater treatment service upon: (1) demonstration to the satisfaction of the Director that the period of endangerment has passed; (2) a detailed written statement submitted by the user describing the causes of the harmful contribution and the measures taken to prevent any future occurrence; and (3) reapplication for a sewer connection

permit and payment of the required fee, as specified in Section 7.06.004.B., unless the termination proceedings set forth in Section 7.06.013.B.7., are initiated against the user. Nothing in this section shall be interpreted as requiring a hearing prior to any emergency suspension under this section.

7. Wastewater discharge permits may be revoked or denied for cause as described elsewhere in this article. In addition, any user found to be in violation of this article, any wastewater discharge permit, or order issued hereunder, may be subject to termination of sewer service. Such user will be notified of the proposed termination of its service and be offered an opportunity to show cause under Section 7.06.013.B.3., of this article why the proposed action should not be taken.
8. The Director may petition the Circuit Court for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the wastewater discharge permit, order, or other requirement imposed by this article on activities of said person. Such other action as appropriate for legal and/or equitable relief may also be sought by the City.
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- A. No person(s) shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance or equipment which is a part of the POTW facilities, unless otherwise authorized by the Director. The Director may authorize entry, uncovering, disconnection, blockage, removal, replacement, or destruction of any part of the POTW when, in his/her opinion, it is in the best interests of the City. Any person(s) violating this provision may be subject to immediate arrest under charge of disorderly conduct and/or may be subject to other enforcement action as set forth in this section. Nothing in this paragraph shall preclude the City from pursuing action in civil court to recover its damages incurred or to obtain a court order enjoining further damage.
- B. When any person has violated or is violating this article, a wastewater discharge permit or order issued hereunder, or any other pretreatment requirement:
 1. The Director may serve upon said person a written notice of violation. Wherever the term "notice" is used throughout this section it shall mean service by personal delivery, by certified mail (return receipt requested), or by posting on the property of the person being notified. Failure to accept certified mail within ten days constitutes acceptance. Said person shall submit to the Director an explanation of the violation and a plan for the satisfactory correction and prevention thereof within ten days of the receipt of the notice, unless otherwise specified by the Director. The plan shall include specific actions which will be taken to remedy the violation. Submission of this plan in no way relieves said person of liability for any violations occurring before or after receipt of the notice of violation.
 2. The Director may enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any person responsible for noncompliance. The agreement may include specific action to be taken by said person to correct the noncompliance within a specified time period. The agreement will have the same force and effect as an administrative order issued pursuant to Section 7.06.013.B.4. and B.5. below.
 3. The Director may order any person who causes or contributes to such violation(s) to appear before the Director and show cause why a proposed enforcement action should not be taken. Notice shall be served on said person specifying the time and place for the hearing, the enforcement action being proposed, the reasons for such action, and a direction that the person show cause why the proposed enforcement action should not be taken. The notice of the hearing shall be served at least ten days prior to the hearing. Such notice may be served on any authorized representative of said person. Whether or

not said person appears as ordered, immediate enforcement action may be pursued following the hearing date.

4. The Director may issue an order to the person responsible for the discharge directing that adequate treatment facilities, devices, or other related appurtenances be installed and properly operated within a specified time frame. This compliance order may also contain other requirements to address noncompliance, including, but not limited to, additional self-monitoring and management practices designed to minimize the amount of pollutants discharged to the sanitary or storm sewer. A compliance order does not extend the deadline for compliance established for a Federal pretreatment standard or requirement, nor does a compliance order release the user of liability for any violation, including any continuing violation. Violation of any terms of a compliance order issued hereunder shall constitute a violation of this article subject to the enforcement remedies authorized herein.
5. The Director may issue an order to the person directing him/her to cease and desist all such violations and directing him/her to:
 - a. Immediately comply with all requirements.
 - b. Take such appropriate remedial or preventative action as may be needed to properly address a continuing or threatened violation, including halting operations and/or terminating the discharge.
6. The Director may immediately suspend the wastewater treatment service and/or a Sewer Connection Permit after informal communication to the user when such suspension is necessary, in the opinion of the Director, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, or cause the POTW to violate any condition of its NPDES Permit or other operation permits as may be issued by the Federal or State government.
 - a. Any person informed of a suspension of the wastewater treatment service and/or the Sewer Connection Permit shall immediately stop or eliminate the contribution. In the event of a failure of the person to comply voluntarily with the suspension order, the City shall take such steps as deemed necessary including immediate severance of the sewer connection and/or termination of water service, to prevent or minimize damage to the POTW system or endangerment to any individuals.
 - b. The Director shall reinstate the wastewater treatment service upon: (1) demonstration to the satisfaction of the Director that the period of endangerment has passed; (2) a detailed written statement submitted by the user describing the causes of the harmful contribution and the measures taken to prevent any future occurrence; and (3) reapplication for a sewer connection permit and payment of the required fee, as specified in Section 7.06.004.B., unless the termination proceedings set forth in Section 7.06.013.B.7., are initiated against the user. Nothing in this section shall be interpreted as requiring a hearing prior to any emergency suspension under this section.
7. Wastewater discharge permits may be revoked or denied for cause as described elsewhere in this article. In addition, any user found to be in violation of this article, any wastewater discharge permit, or order issued hereunder, may be subject to termination of sewer service. Such user will be notified of the proposed termination of its service and be offered an opportunity to show cause under Section 7.06.013.B.3., of this article why the proposed action should not be taken.
8. The Director may petition the Circuit Court for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the wastewater discharge permit, order, or other requirement imposed by this article on activities of said person. Such other action as appropriate for legal and/or equitable relief may also be sought by the City.
9. Water service to the user may be severed upon the authorization of the WPC ~~MS~~ Director. ~~The WPC Director shall notify the Water Department that the premises is no longer entitled to service.~~ Service will only recommence, at the user's expense, after it has satisfactorily demonstrated its ability to comply.

10. The occupational license held by a business may be revoked upon the authorization of the ~~WPC~~ MS Director. The ~~WPC~~ MS Director shall notify the Finance Department that the business is no longer entitled to hold an occupational license. Such license shall only be reissued after the business has satisfactorily demonstrated its ability to comply.

That Section 7.06.015 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

Sec. 7.06.015. Reporting requirements.

Industrial and other nondomestic users are subject to reporting requirements as set out in this section and elsewhere in this article.

- A. Within either 180 days following the effective date of a categorical pretreatment standard, as may be amended from time to time, or the final administrative decision on a category determination under 40 CFR 403.6(a)(4), as may be amended from time to time, whichever is later, any existing user subject to such categorical pretreatment standards and currently discharging to or scheduled to discharge to the POTW, shall submit to the Director a baseline monitoring report containing the following information.
 1. The name and address of the facility including the names of the operator and owner and the name and title of the authorized representative preparing the report.
 2. A list of any environmental control or wastewater discharge permits or authorizations held by or for the facility.
 3. A brief description of the nature, average rate of production, and standard industrial classifications of the operation(s) carried out by such industrial user. This description should include a schematic process diagram which indicates points of discharge to the POTW from the regulated processes. The Director may require that the location be shown of storage areas for raw materials and for hazardous wastes as defined in 40 CFR Part 261 and 10 CSR 25, as may be amended from time to time.
 4. Information showing the measured average daily and maximum daily flow, in gallons per day, to the POTW from regulated processes and other sources as necessary to allow use of the combined wastestream formula set out in 40 CFR 403.6(e), as may be amended from time to time.
 5. Identification of the categorical pretreatment standards applicable to each regulated process.
 6. The results of sampling and analysis identifying the nature and concentration (and/or mass, where required by the pretreatment standard or by the Director) of regulated pollutants in the discharge from each regulated process. Instantaneous, daily maximum and long-term average concentrations (or mass, where required) shall be reported. Samples shall be representative of daily operations and shall be collected and analyzed in accordance with the procedures set forth in Section 7.06.011 and in 40 CFR 403.12(g)(3) and (g)(4), as may be amended from time to time. In cases where the pretreatment standard requires compliance with a Best Management Practice or pollution prevention alternative, the industrial user shall submit documentation as required by the Director or the applicable standard to determine compliance with the standard.

The baseline report shall indicate the time, date, and place of sampling and methods of analysis, and shall certify that such sampling and analysis is representative of normal work cycles and expected pollutant discharges to the POTW. The Director may allow the submission of a baseline report which utilizes only historical data as long as the data provides information sufficient to determine the need for industrial pretreatment measures.
 7. A statement indicating whether the applicable pretreatment standards are being met on a consistent basis and, if not, what additional operation and maintenance (O&M) and/or pretreatment is necessary to bring the user into compliance with the applicable pretreatment standards. This statement shall be signed by an authorized representative of the user, and certified to by a qualified professional engineer.
 8. If additional pretreatment and/or O&M will be required to meet the pretreatment standards, the industrial user shall report the shortest schedule for providing such additional pretreatment and/or O&M. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard.

- a. Where the industrial user's categorical pretreatment standard has been modified by a removal allowance pursuant to 40 CFR 403.7, as may be amended from time to time, the combined wastestream formula (Section 7.06.006.G.), and/or a fundamentally different factors variance (Section 7.06.006.H.) at the time the industrial user submits the report required by paragraph A. of this section, the information required by paragraphs A.7. and A.8. of this section shall pertain to the modified limits.
 - b. If the categorical pretreatment standard is modified by a removal allowance pursuant to 40 CFR 403.7, as may be amended from time to time, the combined wastestream formula (Section 7.06.006.G.), and/or a fundamentally different factors variance (Section 7.06.006.H.) after the industrial user submits the report required by paragraph A. of this section, any necessary amendments to the information requested by paragraphs A.7. and A.8. of this section shall be submitted by the industrial user to the Director within 60 days after the modified limit is approved.
9. All baseline monitoring reports must be signed and certified in accordance with paragraph P.1. of this section.

At least 90 days prior to the commencement of discharge, new sources and sources that become significant industrial users subsequent to the promulgation of an applicable categorical standard shall submit to the Director a report which contains the information listed in paragraphs A.1.—A.6. of this section. A new source shall also report the method of pretreatment it intends to use to meet applicable categorical standards. New sources shall give estimates of the information requested in paragraphs A.4. and A.6. of this section.

- B. The following conditions shall apply to the schedule required by Section 7.06.015.A. above. The schedule shall contain progress increments in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the user to meet the applicable pretreatment standards (such events include hiring an engineer, completing preliminary and final plans, executing contracts for major components, commencing and completing construction, beginning and conducting routine operation). No increment referred to above shall exceed nine months. The industrial user shall submit a progress report to the Director no later than 14 days following each date in the schedule and the final date of compliance including, at a minimum, whether or not it complied with the increment of progress, the reason for any delay, (and, if appropriate) the steps being taken by the industrial user to return to the established schedule. In no event shall more than nine months elapse between such progress reports to the Director.
- C. Within 90 days following the date for final compliance with applicable categorical pretreatment standards, or in the case of a new source following commencement of the introduction of wastewater into the POTW, any industrial user subject to such pretreatment standards and requirements shall submit to the Director a report containing the information described in Section 7.06.015.A.4.—A.7. For industrial users subject to equivalent mass or concentration limits established in accordance with the procedures in 40 CFR 403.6(c), as may be amended from time to time, this report shall contain a reasonable measure of the industrial user's long term production rate. For all other industrial users subject to categorical pretreatment standards expressed in terms of allowable pollutant discharge per unit of production (or other measure of operation), this report shall include the industrial user's actual production during the appropriate sampling period. All samples collected for the 90 day compliance report shall be collected and analyzed in accordance with Section 7.06.011 and with 40 CFR 403.12(g)(3) and (g)(4), as may be amended from time to time. All compliance reports must be signed and certified in accordance with paragraph P.1. of this section.
- D. All significant industrial users subject to categorical standards are required to submit periodic compliance reports as specified herein.
1. Except as specified in paragraphs D.2.—D.4. of this section, all significant industrial users subject to categorical standards shall, at a frequency determined by the Director but in no case less than twice per year (in July and January), submit a report indicating the nature and measured concentration (or mass, where required) in the discharge of all pollutants which are limited by such categorical standards and of any other pollutants which the Director requires to be monitored. The report shall also provide the measured or estimated average and maximum daily flows for the reporting period of regulated process streams and other streams as necessary to allow use of the combined wastestream formula. The reports

shall be based on sampling performed in the period covered by the report, and all wastewater samples must be collected and analyzed in accordance with the procedures set forth in Section 7.06.011 and with 40 CFR 403.12(g)(3) and (g)(4), as may be amended from time to time. In cases where the pretreatment standard requires compliance with a Best Management Practice or pollution prevention alternative, the industrial user shall submit documentation as required by the Director or the applicable standard to determine compliance with the standard. All periodic compliance reports must be signed and certified in accordance with paragraph P.1. of this section.

For industrial users subject to categorical pretreatment standards expressed as equivalent mass or concentration limits, the report required by this paragraph shall contain a reasonable measure of the industrial user's long term production rate. For all other industrial users subject to categorical pretreatment standards expressed only in terms of allowable pollutant discharge per unit of production (or other measure of operation), the report required by this paragraph shall include the industrial user's actual average production rate for the reporting period.

2. The Director may authorize an industrial user subject to a categorical pretreatment standard to forego sampling of a pollutant regulated by a categorical pretreatment standard if the industrial user has demonstrated through sampling and other technical factors that the pollutant is neither present nor expected to be present in the discharge, or is present only at background levels from intake water and without any increase in the pollutant due to activities of the industrial user. This authorization is subject to the following conditions:
 - a. The waiver may be authorized where a pollutant is determined to be present solely due to sanitary wastewater discharged from the facility provided that the sanitary wastewater is not regulated by an applicable categorical standard and otherwise includes no process wastewater.
 - b. The monitoring waiver is valid only for the duration of the effective period of the individual wastewater discharge permit, but in no case longer than five years. The user must submit a new request for the waiver before the waiver can be granted for each subsequent individual wastewater discharge permit.
 - c. In making a demonstration that a pollutant is not present, the industrial user must provide data from at least one sampling of the facility's process wastewater prior to any treatment present at the facility that is representative of all wastewater from all processes.
 - d. The request for a monitoring waiver must be signed by an authorized representative as defined in Section 7.06.001 and include the certification statement in paragraph P.1. of this section.
 - e. Non-detectable sample results may be used only as a demonstration that a pollutant is not present if the EPA approved method from 40 CFR Part 136 with the lowest minimum detection level for that pollutant was used in the analysis.
 - f. Any grant of the monitoring waiver by the Director will be included as a condition in the user's permit. The reasons supporting the waiver and any information submitted by the user in its request for the waiver will be maintained by the Director for three years after expiration of the waiver.
 - g. Upon approval of the monitoring waiver and revision of the user's permit by the Director, the industrial user must certify on each report with the statement in paragraph P.3. of this section that there has been no increase in the pollutant in its wastestream due to activities of the industrial user.
 - h. In the event that a waived pollutant is found to be present or is expected to be present because of changes that occur in the user's operations, the user must immediately: comply with the monitoring requirements of paragraph D.1. of this section or other more frequent monitoring requirements imposed by the Director, and notify the Director.
 - i. This provision does not supersede certification processes and requirements established in categorical pretreatment standards, except as otherwise specified in the categorical pretreatment standard.
3. The Director may reduce the requirement for periodic compliance reports to a requirement to report no less frequently than once a year, unless required more frequently in the pretreatment standard or by the

Approval Authority, where the industrial user's total categorical wastewater flow does not exceed any of the following:

- a. 1,000 gallons per day as measured by a continuous effluent flow monitoring device unless the industrial user discharges in batches;
- b. 1.9 pounds per day of BOD; and
- c. 0.01 percent of the maximum allowable headworks loading for any pollutant regulated by the applicable categorical pretreatment standard for which approved local limits were developed.

Reduced reporting is not available to industrial users that have in the last two years been in significant noncompliance, as defined in Section 7.06.010.B., of this article. In addition, reduced reporting is not available to an industrial user with daily flow rates, production levels, or pollutant levels that vary so significantly that, in the opinion of the Director, decreasing the reporting requirement for this industrial user would result in data that are not representative of conditions occurring during the reporting period.

4. An industrial user determined to be a non-significant categorical industrial user by the Director pursuant to Section 7.06.001 must annually submit the signed certification statement in paragraph P.2. of this section. This certification must accompany any alternative report required by the Director.
- E. The Director may perform the sampling and analysis required to be contained in the reports required in paragraphs A., C., and D. of this section in lieu of the industrial user. Where the Director performs the required sampling and analysis in lieu of the industrial user, the user will not be required to submit the compliance certification required under paragraphs A.7. and C. of this section. In addition, where the Director collects all the information required for the report, including flow data, the industrial user will not be required to submit the report.
- F. The Director may require nondomestic users with discharges that are not subject to categorical pretreatment standards at a frequency determined by the Director to submit a report indicating the nature and concentration (or mass, where required) of pollutants in the discharge which the Director requires to be monitored and the measured or estimated daily flows for the reporting period. In cases where a local limit requires compliance with a Best Management Practice or pollution prevention alternative, the industrial user shall submit documentation as required by the Director to determine the compliance status of the industrial user. These reports shall be based on sampling performed in the period covered by the report, and performed in accordance with the procedures set forth in Section 7.06.011. This sampling and analysis may be performed by the Director in lieu of the noncategorical nondomestic user. Where the Director collects all the information required for the report, the noncategorical nondomestic user will not be required to submit the report.
- G. Each industrial user shall notify the Director of any planned substantial changes to the industrial user's operations or systems which might alter the nature, quality, or volume of its wastewater at least 30 days before the change. The Director may require the industrial user to submit such information as may be deemed necessary to evaluate the changed condition, including the submission of a wastewater discharge permit application. The Director may issue a wastewater discharge permit or modify an existing wastewater discharge permit in response to this notice. No industrial user shall implement the planned change condition until and unless the Director has responded to the industrial user's notice. For purposes of this requirement, flow increases of more than ten percent or the discharge of any previously unreported pollutant shall be deemed substantial changes.

The Director may waive part of the 30-day prior notice required under this paragraph for reasons including, but not limited to, contractual arrangements and unforeseen operational conditions. In order to be considered for a waiver, the industrial user must submit a request for waiver with its notification of planned changes.
- H. In the case of any accidental or other slug discharge, or any other discharge which may cause potential problems for the POTW (including a violation of the prohibited discharge standards in Section 7.06.005 of this article), it is the responsibility of the nondomestic user to immediately telephone and notify the Director of the incident in accordance with the procedures set forth in Section 7.06.008 of this article.

- I. As provided for in 40 CFR 403.3(v)(3) and 403.8(f)(6), as may be amended from time to time, any noncategorical SIU may petition the Director to make a determination that such industrial user has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement and that such industrial user should not be considered a significant industrial user. All nondomestic users which are not significant industrial users shall provide appropriate reports when so required by the Director.
- J. If sampling performed by an industrial user indicates a violation, the industrial user must notify the Director within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Director within 30 days after becoming aware of the violation. The Director may waive the requirement to resample if the POTW performs sampling between the industrial user's initial sampling and when the industrial user receives the results of this sampling.
- K. Under the Federal pretreatment regulations, industrial users discharging hazardous waste as of August 23, 1990, were required by the Federal pretreatment regulations to notify the ~~WPC~~ MS Director, the EPA Region VII Waste Management Division Director, and the Director of the Missouri Department of Natural Resources Hazardous Waste Program in writing within 180 days of any discharge into the POTW of a substance which, if otherwise disposed of, would be a hazardous waste under 40 CFR Part 261. Any industrial user who commences the discharge of hazardous waste after the effective date of the Federal regulation is required to provide the notification no later than 180 days after the discharge of the listed or characteristic hazardous waste. Such notification must include the name of the hazardous waste as set forth in 40 CFR Part 261, as may be amended from time to time, the EPA hazardous waste number, and the type of discharge (continuous, batch, or other). If the industrial user discharges more than 100 kilograms of such waste per calendar month to the POTW, the notification shall also contain the following information to the extent such information is known and readily available to the industrial user: An identification of the hazardous constituents contained in the wastes; an estimation of the mass and concentration of such constituents in the wastestream discharged during that calendar month; and an estimation of the mass of constituents in the wastestream expected to be discharged during the following 12 months. All notifications must take place no later than 180 days after the discharge commences. Any notification under this paragraph need be submitted only once for each hazardous waste discharged. However, notifications of changed discharges must be submitted under Section 7.06.015, paragraph G. above. The notification requirement in this section does not apply to pollutants already reported under the self-monitoring requirements of Section 7.06.015.A. and C.—F., above.

That Section 7.07.003 through 7.07.006 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

Sec. 7.07.003. Sanitary sewer rates.

- A. A schedule of sanitary sewer rates duly adopted by ordinance upon the recommendation of the ~~Water Pollution Control~~ Municipal Services Director shall govern the charges to be made by the City for sanitary sewer service rendered by the City ~~Water Pollution Control~~ Municipal Services Department.
- B. A schedule of sanitary sewer rates, as amended from time to time by the City Council, shall be kept on file in the office of the City Clerk and shall be available for public inspection during all regular business hours.

Sec. 7.07.004. Provisions for sanitary sewer service charge adjustments.

If a substantial part of the wastewater discharge of a commercial or industrial user is not discharged into the public sanitary sewer; or if in a particular case, special circumstances make the application of sewer rates and charges inequitable when applied, then, the City Council of the City shall have the right to modify the foregoing rates, and may enter into contracts which shall provide for equitable charges for wastewater treatment services.

Justification for adjustments to water consumption shall be studied and reported in the form of an engineering report, and submitted to the ~~Water Pollution Control~~ Municipal Services Director. The cost of engineering surveys or reports, or special metering devices used to determine any adjustments shall be borne by the user. All agreements for adjustments of water consumption previously approved by the City Council and all future agreements shall be reviewed annually by the Director.

Sec. 7.07.005. Billing procedures.

A. The billing procedures for residential and nonresident accounts are as follows:

1. In April of each year the ~~Water Pollution Control~~ **Municipal Services** Director shall obtain billing consumption data on all Independence residential customers winter period meter readings and each customer's reading for the 12 months preceding the winter period reading. These readings shall be used to compute residential sanitary sewer service charges as provided for in Section 7.07.003.
2. For billing purposes, winter period water consumption shall mean the customer's average monthly winter water consumption using meter readings ending exclusively in December January, February or March. For the same purposes the previous 12 month average shall mean the customer's average monthly metered water consumption for the 12-month period preceding the winter period. Where water consumption is determined on a bimonthly basis, consumption for the two bimonthly winter periods ending in either December, January, February, or March will be utilized for determining an average winter monthly consumption. For these purposes a month will be 30.4375 days and a quarter will be 91.3125 days. Where the consumption period exceeds 150 days the consumption will be considered as estimated for purposes of determining the volume charge.
3. In situations where new residential sewer customers have no consumption history, six ccf of water consumption shall be used for calculating the customer's monthly sanitary sewer bill.
4. The monthly water consumption factor for determining volume charges shall be as follows:
 - a. Winter period consumption (actual or estimated) and previous 12-month average are available. Compare winter consumption with yearly average:
 - (1) Winter period is lower—Use winter period.
 - (2) Yearly average is lower—Use yearly average.
 - b. Winter period consumption (actual or estimated) available, previous 12-month average not available. Use winter period.
 - c. Winter period consumption is zero, with previous 12-month available:
 - (1) Previous 12 months less than City wide average—Use previous 12 months.
 - (2) City wide average less than previous 12 months—Use City wide average.
5. If the winter period water meter reading is estimated such accounts are eligible for possible adjustment once the next cycle's reading is available. The adjustment shall be based on actual consumption using the beginning winter cycle reading and the next cycle's ending reading divided by total consumption days multiplied by 30.4375.

Any adjustment request shall be accepted for up to five months after a billing change. Such request shall be made in writing to the ~~Water Pollution Control~~ **Municipal Services** Department with proof of the actual water consumption which appears on the customer's bill.
6. Nonresident customers' water billing information shall be gathered on a timely basis to determine customer activity. In the same manner, the ~~Water Pollution Control~~ **Municipal Services** Department shall gather winter period and previous 12 month average water consumption figures for the purpose of billing customers as provided in Section 7.07.003.
7. Once the calculations in the above paragraphs 1.—6. have been made, the ~~Water Pollution Control~~ **Municipal Services** Department shall review customer billing information for accuracy and make any necessary changes. The residential and nonresident sewer billing file will be ready for the first utility billing cycle in July, unless a schedule is otherwise provided by the City Council.

Sec. 7.07.006. Terms of payment.

- A. All bills for the use and service of the wastewater treatment system shall be due and payable at such place as the City Council of the City may from time to time specify. The Director of ~~Water Pollution Control~~ **Municipal Services** shall be responsible for rendering such bills and shall, when reasonably possible, provide a combination utility billing which shall include the charges for the services of the wastewater

treatment system, water utility and such other services as may be provided from time to time. The Director of ~~Water Pollution Control~~ Municipal Services shall establish a due date for utility billings.

- B. It shall be the duty of the ~~Water Utility Director~~, with proper notification ~~from the Director of Water Pollution Control~~ Municipal Services, or other authorized representative, to discontinue water service of all persons for failure to pay any amounts properly due for sanitary sewer service charge delinquencies, deposits, additional deposits or other charges, appropriately billed.

That Section 7.07.008 through 7.07.012 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

Sec. 7.07.008. Customers' right to a hearing.

- A. Customers must apply in writing for an alteration, modification or elimination of the rate being charged, or for a refund. Such notice must contain a statement outlining the necessary facts and conditions which would allow the customer a change in the rate charged or a refund. Such written notice is to be sent to the Director of ~~Water Pollution Control~~ Municipal Services who will designate the opportunity to be heard.
- B. If the customer is not satisfied with the initial finding, he/she may request in writing within ten days a hearing before the Director of ~~Water Pollution Control~~ Municipal Services. The Director will make findings of fact and issue the City's final decision. If the customer's request is granted, the adjustment shall be retroactive to the date when the charges first occurred. All refunds will be first applied as a credit against any balance due with any remainder being refunded by City check.

Sec. 7.07.009. Reconnection of sewer service.

- A. No person shall reconnect a sewer service, without written permission from the Director of ~~Water Pollution Control~~ Municipal Services, when such service has been disconnected for non-payment of a sewer service bill.

Sec. 7.07.010. Surcharge for wastewater of excessive strength.

- A. Nondomestic users are subject to a surcharge of wastewaters of excessive strength if the user's wastewater contains pollutants concentrations greater than 400 mg/l COD or greater than 250 mg/l suspended solids. When, in the opinion of the Director of ~~Water Pollution Control~~ Municipal Services, the strength of a nondomestic discharge is best characterized by a BOD concentration, the Director may substitute BOD for COD for the purpose of surcharge. The BOD surcharge will be based on strengths greater than 225 mg/l. The nondomestic wastewater strength shall be determined by the pollutant concentrations as established by the Standard Wastewater Identification Table. This table shall be approved by the City Council and filed with the City Clerk.
- B. The surcharge shall be computed by using the summation of the following formulas for COD (or BOD) and suspended solids.
 - 1.
 - a. $S(\text{COD}) = 0.0000625 \times V \times R(\text{COD}) \times (\text{COD} - 400 \text{ mg/l})$
 - b. $S(\text{BOD}) = 0.0000625 \times V \times R(\text{BOD}) \times (\text{BOD} - 225 \text{ mg/l})$.
 - 2. $S(\text{TSS}) = .0000625 \times V \times R(\text{TSS}) \times (\text{TSS} - 250 \text{ mg/l})$
 - 3. $S(\text{Total}) = S(\text{COD}) \text{ or } S(\text{BOD}) + S(\text{TSS})$
 - 4. The symbols and letters used in the previous formulas shall mean:
 - a. COD = Chemical oxygen demand in mg/l as defined in Section 7.06.001.
 - b. BOD = Biochemical oxygen demand in mg/l as defined in Section 7.06.001.
 - c. S(COD) = Amount of surcharge based on COD.
 - d. S(BOD) = Amount of surcharge based on 5-day BOD.
 - e. S(TSS) = Amount of surcharge based on suspended solids.

- f. S (Total) Total surcharge.
 - g. TSS = Suspended solids in mg/l as defined in Section 7.06.001.
 - h. V a = Monthly volume of wastewater in cubic feet.
 - i. 0.0000625 = Factor for converting milligrams per liter to pounds per cubic feet.
 - j. R (COD) = Rate per pound of COD based on schedule of sanitary sewer rates.
 - k. R (BOD) = Rate per pound of BOD based on schedule of sanitary sewer rates.
 - l. R (TSS) = Rate per pound of TSS based on schedule of sanitary sewer rates.
- C. Justification for adjustments to surcharge shall be studied and reported in the form of an analytical report generated by a laboratory acceptable to the City and submitted to the Director of ~~Water Pollution Control~~ **Municipal Services**. Sampling and analysis shall be conducted in accordance with the provisions in Section 7.06.011. The cost of sampling and analysis and special sampling devices used to determine adjustments shall be borne by the user. All surcharge adjustments shall be reviewed annually by the Director.
- D. If the wastewater from an establishment is subject to surcharge, components of the discharge shall be reviewed by the Director of ~~Water Pollution Control~~ **Municipal Services** in accordance with Section 7.06.009. The owner of any nondomestic establishment may, if so desired, treat the wastes from such establishment so as to reduce either the excess suspended solids or COD, or both to normal levels before discharging such wastes into the public sanitary sewer for a reduction or elimination of the surcharge.

Sec. 7.07.011. Payment of surcharge.

- A. Any surcharge resulting from wastewaters of excessive strength as defined in Section 7.07.010.A., shall be shown on the sanitary sewer bill as a separate item. The amount of the surcharge shall be payable at the same time as the sewer service charge.
- B. Surcharge revenue collected shall be deposited with the Director of Finance in the Sanitary Sewer Fund, and shall be used to pay the cost of operation and maintenance of the wastewater treatment system.
- C. Where, in the judgment of the ~~Water Pollution Control~~ **Municipal Services** Director, special conditions affecting a commercial or industrial establishment exist to the extent that the surcharge levied will result in inequitable or unfair charges for either the City or the establishment, the Director shall have the authority to render an adjustment for an equitable charge.

Sec. 7.07.012. Other services.

- A. The ~~Water Pollution Control~~ **Municipal Services** Director shall have the authority to offer waste treatment services provided the said wastes and treatment resulting thereof maintains compliance with permits and regulations applicable to the Publicly Owned Treatment Works.
- B. Other services offered by the Publicly Owned Treatment Works may include, but are not limited to, the following:
 - 1. Holding tank waste disposal
 - 2. Laboratory services
 - 3. Sampling and analysis of wastewaters
 - 4. Pretreatment and disposal of wastes
- C. The ~~Water Pollution Control~~ **Municipal Services** Director shall be authorized to execute for and on behalf of the City of Independence purchase orders or contracts for the services referenced in Section B, above, without the prior approval of the City Council provided, however, that any such agreement extending beyond a period of one year must have prior approval if the City Council. Nothing contained herein, shall preclude the applicability of any other rule or regulation which may otherwise apply to said services. The revenue collected shall be deposited with the Director of Finance in the Sanitary Sewer Fund and shall be used to pay the cost of the operation and maintenance of the wastewater treatment system.

That Section 7.08.001 through 7.08.006 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

Sec. 7.08.001. Definitions.

ACT means the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. 1251 et seq.

AUTHORIZED REPRESENTATIVE OF THE INDUSTRIAL USER means:

1. If the industrial user is a corporation:
 - a. the president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - b. the manager of one or more manufacturing, production, or operation facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25,000,000.00 (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
2. If the industrial user is a partnership, a general partner;
3. If the industrial user is a sole proprietorship, a proprietor;
4. If the industrial user is a Federal, State or local government facility, a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or his/her designee.

The individuals described in 1.—4. above may designate another authorized representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for environmental matters for the facility, and the written authorization is submitted to the Director.

BEST MANAGEMENT PRACTICES (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the discharge of pollutants to the municipal separate storm sewer system or to waters of the State. BMPs may also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.

BOD (denoting Biochemical Oxygen Demand) means a measure of the quantity of oxygen utilized in the biochemical oxidation of organic matter in a specified time and at a specific temperature. It is not related to the oxygen requirements in chemical combustion, being determined entirely by the availability of the material as a biochemical food and by the amount of oxygen utilized by the microorganisms during oxidation.

COD (denoting Chemical Oxygen Demand) means a quantitative measure of the amount of oxygen required for the chemical oxidation of carbonaceous (organic) material in wastewater using inorganic dichromate or permanganate salts as oxidants in a two-hour test.

CONSTRUCTION MATERIAL means any article, material, or supply brought to a construction site for incorporation in the building or work.

DIRECTOR, or ~~WPC~~ **MS** DIRECTOR means the Director of ~~Water Pollution Control~~ **Municipal Services** Department of the City or his duly authorized representative.

DISCHARGE means the discharge of a pollutant.

DOMESTIC WASTES means wastes which are comparable to those discharged by the average residential user. The strength of domestic wastewater shall have a COD less than or equal to 400 mg/l or a BOD less than or equal to 225 mg/l and contain less than or equal to 250 mg/l suspended solids.

EPA (denoting Environmental Protection Agency) means the United States Environmental Protection Agency, or where appropriate, the term may also be used as designation for the Administrator or other duly authorized official of said agency.

EROSION means the wearing away of land surface by the action of wind, water, gravity, or a combination thereof.

EROSION CONTROL MEASURES means measures to control or prevent erosion of earth materials and to prevent pollution and siltation in adjacent waterways and storm sewers, including but not limited to, berms, slope drains, silt fences, straw bales, sediment basins, ditch checks, and other devices or measures.

ILLCIT DISCHARGE means any discharge to the municipal separate storm sewer system that is not composed entirely of storm water, except discharges pursuant to a State operating permit (other than the State operating permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

INDIRECT STORM SEWER DISCHARGE means any discharge to a storm sewer located in another jurisdiction which is tributary to the municipal separate storm sewer system.

INDUSTRIAL USER as used in this article means any nondomestic source of discharge or indirect storm sewer discharge into the municipal separate storm system which is regulated under Section 307(b), (c), or (d) of the Clean Water Act, or any source listed in division A, B, D, E, or I of the Standard Industrial Classification Manual (1987), as may be amended or revised, or any solid waste disposal operation such as, but not limited to, landfills, recycling facilities, solid or hazardous waste handling or disposal facilities, and facilities which store or treat aqueous wastes as generated by facilities not located on site and which dispose of those wastes by discharging them into the City's wastewater system.

LAND DISTURBANCE, or EARTHWORKS, means any activity that changes the physical condition of the land surface, including but not limited to grading, grubbing, clearing, excavation, filling, removal of vegetation, and storage of materials.

LANDFILL means location where waste materials are deposited on or buried within the soil or subsoil. Included are open dumps and landfills built and/or operated prior to the passage of the Missouri Solid Waste Management Law as well as those built and/or operated since.

MUNICIPAL SEPARATE STORM SEWER means a conveyance or system of conveyances including roads and highways with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, paved or unpaved channels or storm drains designated and utilized for routing of storm water, creeks, streams and tributaries which:

1. Does not include any waters of the State as defined in this section; and
2. Is contained within the municipal corporate limits or is owned and operated by the City; and,
3. Is not a part or portion of a combined sewer system; and
4. Is not a part of a POTW.

MUNICIPAL SEPARATE STORM SEWER SYSTEM or MS4 means the City's system of municipal separate storm sewers as defined in this section.

NONDOMESTIC SOURCE means any person who discharges or causes or allows the discharge, either directly or indirectly, into the City's POTW, into the municipal separate storm sewer system or into waters of the State of nondomestic wastes.

NONDOMESTIC WASTES means the wastes from industrial processes (including wastes from any sources identified as industrial users as defined in this section), wholesale or retail trade or business (including food preparations concerns and businesses operated from a residence), as distinct from domestic or sanitary wastes. Nondomestic wastes may also include storm water associated with industrial activity as defined in this article and/or storm water associated with land disturbance activities subject to erosion control permitting requirements under City Code.

PERSON means any individual, firm, company, association, society, corporation, group, partnership, copartnership, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.

POLLUTANT means any filter backwash; dredged spoil; solid waste; incinerator residue; sewage; garbage; sewage sludge; munitions; chemical wastes; biological materials; radioactive materials; heat; wrecked or discarded equipment or materials; rock; gravel; soil; sediment; sand; dirt; dust; construction materials and wastes, including

natural rock and soil overburden; animal waste; vegetation; yard waste; significant materials as defined in this section; nondomestic, domestic, municipal, and agricultural wastes; and any other solid, liquid, or gaseous substance, material, or waste that is discharged into water or that has the potential to enter into any waters conveyed by a municipal separate storm sewer or into waters of the State.

POLLUTION in this article means contamination or other alterations of the physical, chemical or biological properties of any waters conveyed by a municipal separate storm sewer or of any waters of the State, including change in temperature, taste, color, turbidity or odor of the waters, or discharge of any liquid, gaseous, solid, radioactive or other substance into any waters conveyed by a municipal separate storm sewer or into any waters of the State which will or is reasonably certain to create a nuisance or render the waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, industrial, agricultural, recreational or other legitimate beneficial uses, or to wild animals, birds, fish or other aquatic life.

POTW (denoting Publicly Owned Treatment Works) means the treatment works as defined by Section 212 of the Act (33 U.S.C. 1292) which is owned by the State or a municipality, including any devices and systems used in the collection, storage, treatment, recycling, and reclamation of sewage or industrial wastes of a liquid nature and any conveyances which convey wastewater to the POTW wastewater treatment plant. The term also means the municipal entity having jurisdiction over the discharges to and from such a treatment works.

PUBLIC STORM SEWER means a municipal separate storm sewer as defined in this section which is owned by the City.

RECYCLING FACILITY means a location where metals, paper, tires, glass, organic materials, used oils, spent solvents or other materials are collected for reuse, reprocessing or resale.

SEDIMENT means inorganic and organic material, including, but not limited to soil, sand, and minerals, that has been deposited in water, is suspended in water, is being transported or has been removed from its site of origin and deposited in a new location by wind, water, or gravity as a result of erosion.

SEWER shall mean pipe or conduit that carries wastewater or drainage water.

SIGNIFICANT CONTRIBUTOR OF POLLUTANTS means a person who discharges or causes the discharge of pollutants in storm water which can cause water quality standards of the waters of the State contained in 10 CSR 20-7.031, as may be amended from time to time, to be violated.

SIGNIFICANT MATERIALS includes, but is not limited to: Raw materials; fuels; materials such as solvents, detergents, lubricants, antifreeze and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); any chemical the facility is required to report pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA); fertilizers, pesticides and waste products such as ashes, slag, sludge and used oil that have the potential to be released with storm water discharges.

SILVICULTURAL ACTIVITIES means activities associated with the management of forest land for timber.

SOIL means the unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

STATE means the State of Missouri.

STORM DRAIN (sometimes termed "storm sewer") means a drain or sewer for conveying storm water, groundwater, subsurface water, or unpolluted water from any source.

STORM WATER means storm water runoff, snowmelt runoff and surface runoff and drainage.

STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw material storage areas, including but not limited to: Storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material or by-products used or created by the facility; material handling sites; sites used for the application or disposal of process wastewaters; sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials and intermediate and finished

products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.

STORM WATER MANAGEMENT PROGRAM or SWMP means the program developed by the City to satisfy the requirements of 40 CFR Part 122.26(d) and 10 CSR 20-6.200(4), as may be amended from time to time.

SUSPENDED SOLIDS, also referred to as nonfilterable residue, means the total suspended matter that either floats on the surface of, or is in suspension in, water, wastewater, or other liquids, and that is removable by laboratory filtering as prescribed in 40 CFR Part 136, as may be amended from time to time.

UNPOLLUTED WATER is water which does not contain any pollutants.

USER means any person who contributes, causes or permits the contribution of wastewater into the City's POTW, either directly or by indirect sewage discharge.

WASTEWATER means the liquid and water-carried domestic or nondomestic wastes from residences, commercial buildings, industrial facilities, and institutions, together with any groundwater, surface water, and stormwater that may be present, whether treated or untreated, which is contributed into or permitted to enter the POTW.

WASTEWATER TREATMENT PLANT, or TREATMENT PLANT, means that portion of the POTW designed to provide treatment of wastewater.

WATERS OF THE STATE means, in this article, all waters listed as L1, L2 and L3 in Tables G and P, Pl and C in Table H of 10 CSR 20-7.031, as may be amended from time to time.

The following abbreviations shall have the designated meaning:

BOD =	Biochemical Oxygen Demand
BMPs =	Best Management Practices
CFR =	Code of Federal Regulations
COD =	Chemical Oxygen Demand
CSR =	Code of State Regulations
EPA =	U.S. Environmental Protection Agency
mg/l =	Milligrams per liter
MS4 =	Municipal Separate Storm Sewer System
MS =	<u>Municipal Services Department</u>
NPDES =	National Pollutant Discharge Elimination System
POTW =	Publicly Owned Treatment Works
RSMo =	Revised Statutes of Missouri
SIC =	Standard Industrial Classifications
SWMP =	Storm Water Management Program
USC =	United States Code
WPC =	Water Pollution Control Department

Sec. 7.08.002. Industrial users of the municipal separate storm sewer system.

- A. The Director may require industrial users to conduct self-inspections, self-monitoring of storm water discharges, and/or reporting to the ~~Water Pollution Control~~ Municipal Services Department in a manner deemed appropriate by the Director.

Sec. 7.08.003. Illicit discharges.

- A. It shall be unlawful for any person to cause or allow any illicit discharge as defined in this article, either directly or by indirect storm sewer discharge, to enter into municipal separate storm sewer system, except as provided for in this section.
- B. Certain de minimus non-storm water discharges are not prohibited by the City from discharging to the municipal separate storm sewer system unless specifically identified by the Director as needing to be controlled or prohibited. The following may be considered to be de minimus non-storm water discharges provided that such discharges do not contribute pollutants (such as but not limited to chlorine, detergents, filter backwash, and solids) to waters of the State or to streams or creeks that are tributary to waters of the State: Water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration to separate storm sewers; uncontaminated pumped ground water; discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water and springs; water from crawl space pumps, footing drains, lawn watering, and individual residential car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash water and runoff from fire fighting.
- C. The Director may, in a manner deemed appropriate, prohibit, condition, restrict or control the quality and/or quantity of the discharge to the municipal separate storm sewer system of any individual discharge or class of discharges listed in paragraph B. above in order to achieve the objectives of the City's storm water management program, except that runoff from the fire fighting may only be prohibited on a case-by-case basis if the Director determines it to be a significant contributor of pollutants to waters of the State.
- D. The Director may, in a manner deemed appropriate, require notification to be made to ~~WPC~~ MS prior to discharge from water line flushing, swimming pool discharge, street wash water, or other non-stormwater discharges in order to determine whether such discharges may be sources of pollutants to waters of the State or to streams or creeks that are tributary to waters of the State.

Sec. 7.08.004. Spills, dumping, and disposal of materials other than storm water.

- A. It shall be unlawful for any person to cause pollution of any waters conveyed by a municipal separate storm sewer or to cause pollution of any waters of the State or to place or cause or permit to be placed any pollutant in a location where it is reasonably certain to cause pollution of any waters conveyed by a municipal separate storm sewer or pollution of any waters of the State.

This prohibition includes but is not limited to pollution or the threat of pollution by runoff of soil, sediment, rock, gravel, sand, construction materials or other pollutants associated with:

 - 1. Land disturbance or earthwork activities;
 - 2. All other construction activities;
 - 3. Agricultural and silvicultural activities; and
 - 4. Mining activities, including new, currently operating, and abandoned surface and underground mines.
- B. Any person dumping or disposing of any material or substance other than storm water into a municipal separate storm sewer or into waters of the State (except discharges pursuant to a State operating permit) may be required by the Director to remove such material and dispose of it properly in accordance with all applicable local, State and Federal laws and regulations at the expense of the person responsible for the dumping or disposal. When, in the opinion of the Director, a pollutant has caused, or has been placed in a location where it is reasonably certain to cause, pollution of waters conveyed by the municipal separate storm sewer system or of waters of the State, the Director may arrange for remediation action to be taken and recover the costs from the person responsible for the pollutant as set forth in Section 7.08.006.J. Such remediation action may include, but is not limited to the protection of the municipal separate storm sewer system from runoff of soil, sediment, rock, gravel, sand, construction materials and other pollutants.

- C. Each nondomestic source shall provide protection from accidental discharge, either directly or by indirect storm sewer discharge, of significant materials as defined in this article into the municipal separate storm sewer system. Facilities to prevent accidental discharges shall be provided and maintained at the cost and expense of the nondomestic source.
- D. The ~~Water Pollution Control~~ **Municipal Services** Director may require detailed pollution prevention plans from industrial users, businesses, commercial entities, residential and other developments and other property owners, including facilities and operating procedures to provide protection from spills and accidental discharges and/or including erosion control measures to be used during land disturbance or earthwork activities and other construction activities. The pollution prevention and spill control plans, if required, shall be submitted to the Director for review. The pollution prevention and spill control plans shall be modified to meet the Director's comments within the time frame established by the Director. The plans shall be approved by the Director prior to construction of any proposed facilities. The source shall comply with the pollution prevention and spill control plans, upon their approval.

Pollution prevention, erosion control and spill control plans may include, but are not limited to, the following:

1. Description and location of stored chemicals, raw materials and other significant materials; and
 2. Prevention of exposure of significant materials to precipitation; and
 3. On-site storm water treatment; and
 4. Spill prevention through proper initial selection and construction of equipment; equipment operation, maintenance, and inspection procedures; personnel training and supervision; and security measures to prevent vandalism; and
 5. Spill containment through provision of secondary containment devices or diversionary structures; and
 6. Procedures for immediately notifying the ~~Water Pollution Control~~ **Municipal Services** Department of any spill or accidental discharge of significant materials, with procedures for follow-up written notification within five days; and
 7. Procedures to prevent adverse impact from any spill. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, measures for containing materials, and/or measures and equipment for emergency response.
 8. Conformance to the Erosion Control Requirements of the City, as set forth in the Design and Construction Manual Chapter 20, Article 16, of the City Code.
- E. In the case of a spill or discharge of significant materials that could enter the municipal separate storm sewer system or waters of the State, it is the responsibility of the nondomestic source to immediately telephone and notify ~~Water Pollution Control~~ **Municipal Services** of the incident. The notification shall include location of discharge, type of material, concentration, volume, and corrective actions.
 - F. Within five days following a spill or discharge of significant materials to the municipal separate storm sewer system, the nondomestic source shall submit to the ~~Water Pollution Control~~ **Municipal Services** Director a detailed written report describing the cause of the discharge and the measures to be taken by the nondomestic source to prevent similar future occurrences. Such notification shall not relieve the nondomestic source of any expense, loss, damage, or other liability which may be incurred as a result of damage to the municipal separate storm sewer or to waters of the State, fish kills, or any other damage to person or property; nor shall such notification relieve the nondomestic source of any fines, civil penalties, or other liability which may be imposed by this article or other applicable law.

Sec. 7.08.005. Powers and authority of inspectors.

- A. The ~~Water Pollution Control~~ **Municipal Services** Director or any authorized representatives bearing proper credentials and identification shall be permitted to enter all properties for the purposes of inspection, records examination and copying, observation, measurements, sampling, and testing pertinent to discharge or potential to discharge, and for repair and maintenance to the municipal separate storm sewer system in accordance with the provisions of this article.

- B. Information and data on a nondomestic source obtained from reports, questionnaires, permit applications, permits and monitoring programs and from inspections shall be available to the public or other governmental agency without restriction, unless the nondomestic source specifically requests and is able to demonstrate to the satisfaction of the Director that the release of such information would divulge information, processes or methods of production entitled to protection as confidential information according to the criteria set forth in 40 CFR 2.208 and 2.302, as may be amended from time to time.

When requested by the person furnishing a report, the portions of a report which might disclose confidential information shall not be made available for inspection by the public. Storm water constituents and characteristics will not be recognized as confidential information.

Information accepted by the City as confidential shall be made available upon request to any agency meeting the requirements of Section 308 of the Act, including officers, employees or authorized representatives of the United States concerned with carrying out the Act, bound by the confidentiality rules in 40 CFR Part 2, as may be amended from time to time.

- C. While performing the necessary work on private properties referred to in Section 7.08.005.A., the ~~Water Pollution Control~~ **Municipal Services** Director, or duty authorized representatives, shall observe all safety rules applicable to the premises established by the company, and the company shall be held harmless for injury or death to the Director, or authorized representatives, and the City shall indemnify the company against loss or damage to its property by City employees and against liability claims and demands for personal injury or property damage asserted against the company by City employees and growing out of the inspection and sampling operation, except as such may be caused by negligence or failure of the company to maintain safe conditions.

Sec. 7.08.006. Enforcement of the municipal separate storm sewer regulations.

- A. No person(s) shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance or equipment which is a part of the public storm sewer facilities, unless otherwise authorized by the Director. The Director may authorize entry, uncovering, disconnection, blockage, removal, replacement, or destruction of any part of the public storm sewer system when, in his/her opinion, it is in the best interests of the City. Any person(s) violating this provision may be subject to immediate arrest under charge of disorderly conduct and/or may be subject to prosecution in municipal court and to a fine of up to \$500.00 and a jail term of up to six months, or both. Nothing contained in this paragraph shall preclude the City from pursuing action in civil court to recover its damages incurred, to obtain a court order enjoining further damage, or to pursue remedies set forth in paragraphs B. through J. below.
- B. When any person has violated or is violating this article, a permit or order issued hereunder, or any other storm water control ordinance, regulation, permit, or order, including but not limited to Erosion Control Requirements contained in the Design and Construction manual: Chapter 20, Article 16, of the City Code:
1. The Director may serve upon said person a written notice of violation. Wherever the term "notice" is used throughout this section it shall mean service by personal delivery, by certified mail (return receipt requested), by first class mail, or by posting on the property of the person being notified. Failure to accept certified mail within ten days constitutes acceptance. Said person shall submit to the Director an explanation of the violation and a plan for the satisfactory correction and prevention thereof within ten days of the receipt of the notice, unless otherwise specified by the Director. The plan shall include specific actions which will be taken to remedy the violation. Submission of this plan in no way relieves said person of liability for any violations occurring before or after receipt of the notice of violation.
 2. The Director may enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any person responsible for noncompliance. The agreement may include specific action to be taken by said person to correct the noncompliance within a specified time period. The agreement will have the same force and effect as an administrative order issued pursuant to Section 7.08.006, paragraphs B.4. and B.5. below.
 3. The Director may order any person who causes or contributes to such violation(s) to appear before the Director and show cause why a proposed enforcement action should not be taken. Notice shall be served on said person specifying the time and place for the hearing, the enforcement action being proposed, the reasons for such action. And a direction that the person show cause why the proposed enforcement action

should not be taken. The notice of the hearing shall be served at least ten days prior to the hearing. Such notice may be served on any authorized representative of said person. Whether or not said person appears as ordered, immediate enforcement action may be pursued following the hearing date.

4. The Director may issue an order to the person responsible for noncompliance directing that adequate treatment facilities, devices, or other related appurtenances be installed and properly operated within a specified time frame. This compliance order may also contain other requirements to address noncompliance, including, but not limited to, best management practices and/or erosion control measures designed to minimize the amount of pollutants discharged to the municipal separate storm sewer system. A compliance order does not release said person of liability for any violation, including any continuing violation. Violation of any terms of a compliance order issued hereunder shall constitute a violation of this article subject to the enforcement remedies authorized herein.
5. The Director may issue an order to the person directing him/her to cease and desist all such violations and directing him/her to:
 - a. Immediately comply with all requirements; and/or
 - b. Take such appropriate remedial or preventative action as may be needed to properly address a continuing or threatened violation.
6. The Director may petition the Circuit Court for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the permit, order or other requirement imposed by this article on activities of said person. Such other action as appropriate for legal and/or equitable relief may also be sought by the City.
7. Upon a finding by the ~~WPC~~ MS Director that it is necessary to stop work on any clearing, grubbing, excavation or other land disturbance or construction activities in order to obtain compliance or to correct a violation, the ~~WPC~~ MS Director shall so notify the ~~Public Works~~ Municipal Services Director. Upon receipt of such notification, the ~~Public Works~~ Municipal Services Department shall take the necessary steps to issue a stop-work order to the appropriate person. Any work done on the site after notice of a stop-work order is prohibited except for work necessary to conduct the required corrective action. The stop-work order shall only be rescinded after the ~~WPC~~ MS Director has determined that ability to comply has been satisfactorily demonstrated and the ~~WPC~~ MS Director has so notified the ~~Public Works~~ Municipal Services Director.
8. The occupational license held by a business may be revoked for noncompliance with this article. The ~~WPC~~ MS Director shall notify the Director of Finance and Administration that the business is no longer entitled to hold an occupational license. Upon receipt of such notification, the Finance Department shall take the necessary steps to revoke said license. Such license shall only be reissued after the ~~WPC~~ MS Director has determined that the business has satisfactorily demonstrated its ability to comply and the ~~WPC~~ MS Director has so notified the Director of Finance and Administration.
9. Building permits may be revoked for noncompliance with this article. The ~~WPC~~ MS Director shall notify the Community Development Director that the permittee is no longer entitled to hold a building permit. Upon receipt of such notification, the Community Development Department shall take the necessary steps to revoke said permit. Such permit shall only be reissued after the ~~WPC~~ MS Director has determined that the person has satisfactorily demonstrated his/her ability to comply and the ~~WPC~~ MS Director has so notified the Community Development Department Director.
- C. In addition to the remedies set out in paragraph B. above, the Director may levy an administrative fine not to exceed \$1,000.00 per violation per day against any industrial user or other nondomestic source that is found to have violated or continues to violate any provision of this article, any permit or orders issued hereunder, or any other storm water control ordinance, regulation, permit, or order, including but not limited to Erosion Control Requirements contained in the Design and Construction manual, Chapter 20, Article 16, of the City Code.
- K. Before any building permit or other permit or license referred to in this article shall be reissued, the ~~WPC~~ MS Director may require the applicant for such permit to deposit with the Director of Finance and Administration a Performance Bond in a sum not to exceed a value determined by the ~~WPC~~ MS Director to be necessary to achieve consistent compliance.

That Section 7.09 through 7.09.000 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

ARTICLE 9. PERIODIC REPORTS BY DIRECTOR OF PUBLIC WORKS MUNICIPAL SERVICES

Sec. 7.09.000. Director of ~~Public Works~~ Municipal Services to report to Council.

The Director of ~~Public Works~~ Municipal Services shall annually or more frequently as required by Council, submit a written report to the City Council as to the present sewage load carried by the sewage facilities in each watershed either partially or wholly located within the corporate limits of the City of Independence, Missouri, and, in addition, a statement based upon generally accepted engineering standards currently approved by the Missouri Water Pollution Board as to the capacity of each such facility.

That Section 7.10.004 of Chapter 7, ENVIRONMENTAL CONTROL, of the Independence City Code is hereby amended to read as follows:

Sec. 7.10.004. Excessive sounds prohibited on public property.

- A. It shall be unlawful for any person to make, or cause to be made, on public property any sound disturbance or any excessive, unnecessary, or unusually loud sound or any sound that violates this article. The following acts, and the causing thereof, are specifically declared to be in violation of this article:
 1. Operating, playing, or permitting the operation or playing of any radio, television, phonograph, drum, musical instrument, sound amplifier, loudspeaker, public address system or similar device which produces, reproduces, or amplifies sound:
 - a. In such a manner as to be plainly audible at a distance of 25 feet or more from such device.
 - b. In such a manner as to be plainly audible on a common carrier to any person other than the operator of the device.
 2. Yelling, shouting, hooting, whistling, or singing on the public streets that is plainly audible between the hours of 11:00 p.m. and 7:00 a.m.
 3. The discharge into the open air of the exhaust of any steam engine, stationary internal combustion engine, motor boat, or motor vehicle, except through a muffler or other device which will effectively prevent loud or explosive sound therefrom.
 4. The creation of any sound on any street adjacent to any school, institution of learning, church, court or hospital, which unreasonably interferes with the workings of such institution, provided that conspicuous signs are displayed in such streets indicating the presence of the institution and designating sound sensitive zones as approved by the Director of ~~Public Works~~ Municipal Services.

That Section 8.08.002 of Chapter 8, FINANCE, TAXATION, AND BUSINESS OF THE CITY, of the Independence City Code is hereby amended to read as follows:

Sec. 8.08.002. Persons and transactions covered.

- A. These regulations apply to all persons who have participated, are currently participating or may reasonably be expected to participate in transactions with the City. For purposes of these regulations such transactions will be referred to as "covered transactions."
- B. For purposes of this article, a covered transaction is a primary covered transaction or a lower tier covered transaction. Covered transactions at any tier need not involve the transfer of City funds.
 1. Except as noted in paragraph "C" of this section, a primary covered transaction is any transaction between the City and a person for procurement of goods and/or services, or ~~public works~~ Municipal Services contracts.
 2. A lower tier covered transaction is any contract for goods or services between a participant and a person, which goods or services are to be employed in a covered transaction.
- C. The following transactions are not covered transactions:
 1. Employment with the City;

2. Incidental benefits derived from ordinary governmental operations;
3. Contracting for utility services as a customer of the City; and,
4. Other transactions where the application of this article would be prohibited by law.

That Section 9.01.002 of Chapter 9, FIRE CODE, of the Independence City Code is hereby amended to read as follows:

Sec. 9.01.002. Amendments made in the International Fire Code.

Sec. 5601.2.3. Explosive, Explosive Materials and Blasting Agents Permits

- A. A permit for the use of explosives or blasting agents as required by Section 5601.2 of this International Fire Code, shall be obtained from the ~~Public Works~~ **Municipal Services** Department for each location where such use of explosive or blasting is to take place.
- B. Application for a permit to use explosive or blasting agents shall be made on forms obtained from the Department of ~~Public Works~~ **Municipal Services**.
- C. The ~~Public Works~~ **Municipal Services** Department is hereby authorized to require every applicant to furnish all information deemed necessary for the safeguarding of life and property from the hazards of blasting in accordance with NFPA Standard 495, Chapter 2, and the ~~Public Works~~ **Municipal Services** Department shall furnish the Fire Department of the City with a copy of such information obtained from such applicant that demonstrates the applicant has had adequate training and experience in the use of explosive materials in the class authorized by the permit applied for.
- D. Before any permit as required by this International Fire Code is issued for the use of explosives or blasting agents, every applicant shall procure public liability insurance with the following coverage:
 - (1) For bodily injury to or death of any one person in the amount of Three Hundred Thousand Dollars.
 - (2) For any one accident in the amount of Three Hundred Thousand Dollars.
 - (3) For damage to the property of another person in the amount of not less than One Hundred Thousand Dollars for any one accident.
 - (4) One Million Dollar limit in umbrella excess liability if work is to be done in a fully developed area.
- E. The applicant shall file with the ~~Public Works~~ **Municipal Services** Department a certificate of insurance issued by the insurance carrier concerned to evidence compliance with the public liability insurance requirements.

That Section 11.13.023 of Chapter 11, HEALTH AND SAFETY, of the Independence City Code is hereby amended to read as follows:

Sec. 11.13.023. – Filtration sand filters.

- A. Where sand filters are used, they may be of pressure, gravity, or vacuum type, and they shall bear the seal of the National Safety Foundation (NSF). When high filter rates can be justified on a basis of good engineering practice, a design filter rate not to exceed 20 gallons per square foot per minute may be permitted.
- B. Pressure filter tanks shall be supported by jack legs or other supports to give free movement of air under each tank and to permit access for painting.
- C. In complete filter installation, where dissimilar metals are used which may set up galvanic electric currents, the metals shall be separated with a suitable dielectric which satisfactorily prevents electrolysis.
- D. The filter bed shall consist of suitable grades of filter sand and a supporting bed of graded gravel or other porous material which shall serve to support the filter bed and distribute both filtered and backwash water uniformly. The supporting bed consisting of graded gravel or other material shall support not less than 20 inches of filter media consisting of silica sand or other durable, inert material with an effective size between 0.04 mm and 0.55 mm, and uniformly coefficient not exceeding 1.75.

- E. The minimum freeboard to the draw-off point shall be not less than 12 inches above the normal level of the top of the filter bed. The minimum backwash shall be not less than 15 gallons per square foot of filter bed per minute. A backwash rate of 20 gallons per square foot and 18 inches of freeboard is recommended.
- F. Where anthracite coat or other filter media is employed, the freeboard shall be adequate to prevent the media being carried off to waste when the filter bed is back washed at a rate adequate to carry off foreign material filtered from the water. The freeboard and the rate of backwash shall be the subject of individual design, based upon specific gravity of the media.
- G. The under-drain system shall be such that uniform distribution of backwash water shall be provided over the entire bed area.
- H. The under drain system shall be fabricated of material which is corrosive resistant and enduring, wherein the orifices shall be so designed and of such material that they will maintain an approximate constant area.
- I. The filter shall be provided with proper and adequate controls such as:
 - 1. Air filter relief valves
 - 2. Backwash indicators or controllers
 - 3. Backwash sight glasses
 - 4. Loss of head gauges
 - 5. Rate flow indicators or controllers
 - 6. Sampling cocks
 - 7. Valves and piping to regulate flow of water to and from the filters for proper filtration and backwash to the sanitary sewer.
- J. The filter plant shall be provided with means for draining filter units and piping, so that all parts of the system may be completely drained to prevent damage from freezing.
- K. Each pressure filter unit shall be provided with an access opening of not less than a standard 11-inch by 15-inch manhole and cover.
- L. Filter wash water may create nuisance conditions if not properly handled. New pools shall discharge all wastewater to the sanitary sewer. Existing systems must contain and remove wastewater matter in accordance with ~~the City Water Pollution Control~~ **Municipal Services** Department regulations pertaining to waste. This must be addressed in the planning and permitting portion of the application.

That Section 14-300-06-F of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-300-06 - Other applicable regulations

14-300-06-F. Sidewalks

- 2. Required sidewalks must be installed in the public right-of-way in accordance with ~~Chapter 20,~~ the ~~Public Works~~ **Design and Construction** Manual.

That Section 14-301-06 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-301-06 - Other applicable regulations

14-301-06-F. Sidewalks. Sidewalks are required on both sides of the street in office and commercial zoning districts. Required sidewalks must be installed in the public right-of-way in accordance with ~~Chapter 20,~~ the ~~Public Works~~ **Design and Construction** Manual.

That Section 14-302-05 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-302-05 - Other applicable regulations

14-302-05-E. Sidewalks. Sidewalks are required for all developments in I districts. Sidewalks must be installed in the public right-of-way on both sides of all streets and must be constructed in accordance with ~~Chapter 20~~, the ~~Public Works~~ Design and Construction Manual.

That Section 14-400-02 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-400-02 Fences

10. No private fence shall be installed on public property, including in the street right-of-way. Fences are subject to the intersection visibility standards of the ~~Public Works~~ Design and Construction Manual.

That Section 14-405-01 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-405-01 Recreational vehicle parks

14-405-01-J. Each recreational vehicle space within a recreational vehicle park must have direct access to an interior paved drive or street. The minimum width of one-way interior drives serving enclaves of recreational vehicle spaces and permitting no parking is 14 feet, measured from back-to-back of curb. The minimum width of two-way interior drives permitting no parking is 26 feet, measured from back-to-back of curb. The minimum width of one-way interior drives permitting parking on one side only is 18 feet, measured from back-to-back of curb. The minimum width of interior two-way drives permitting parking on one side only is 28 feet, measured from back-to-back of curb. The minimum width of one-way interior drives permitting parking on both sides is 28 feet, measured from back-to-back of curb. All interior drives and public streets must be designed and paved according to City specifications for residential streets contained in the ~~Public Works~~ Design and Construction Manual and this development ordinance.

That Section 14-408-01 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-408-01 Minimum standards for vehicle storage/tow lots

14-408-01-B. Outdoor Storage. All outdoor vehicle storage areas must be shielded by an opaque fence or wall that is a minimum of six feet tall and a maximum of ten feet tall. The interior of the fence or wall must be protected by a guardrail or similar barrier to prevent damage to the fence or wall. All vehicles, equipment and inventory of the business must be stored behind the fence or wall and may not exceed the height of the fence or wall. All storage areas shall be paved in accordance with the requirements of the City ~~Public Works~~ Design and Construction Manual.

14-408-01 Minimum standards for vehicle storage/tow lots

14-408-02-F. Screening. All outdoor vehicle storage areas must be shielded by an opaque fence or wall that is a maximum of six feet tall. All vehicles, equipment and inventory of the business must be stored behind the fence or wall and may not exceed the height of the fence or wall. All storage areas shall be paved in accordance with the requirements of the City ~~Public Works~~ Design and Construction Manual.

That Section 14-409-04 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-409-04 Outdoor display areas

14-409-04-B. Outdoor display/sales areas must incorporate curbs or other substantial permanent barriers to prevent encroachment of the vehicles into required building setback and landscape areas. All vehicle display and parking areas must be paved in accordance with the requirements of the ~~Public Works~~ Design and Construction Manual.

That Section 14-412-02 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-412-02 General requirements

14-412-02-B. Required Parking. Paved off-street parking spaces shall be provided in accordance with the table below. Paving specifications are provided in the City ~~Public Works~~ Design and Construction Manual.

That Section 14-417-07 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-417-07 Parking

No parking shall be required for community gardens on lots located on streets where on-street parking is permitted. For community gardens on lots located on streets where on-street parking is not permitted on either side of the street, a minimum of one on-site parking space shall be provided for every 15,000 square feet of lot area. All off-street parking areas shall comply with the construction specifications in the ~~Public Works~~ Design and Construction Manual of the City Code.

That Section 14-500-01 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-500-01 Natural resource protection generally

14-500-01-G. No grading, grubbing or clearing permits may be issued by the ~~Public Works~~ Municipal Services Department for activities that would violate the natural resource protection standards of this article.

That Section 14-500-03 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-500-03-B. Tree Preservation Plan.

2. A tree preservation plan is required for any new construction project or addition to an existing structure, any grading permit, or project which requires clearing and grubbing of the site and must specify the following:
 - (a) Prior to the issuance of a clearing and grubbing and/or grading permit by the ~~Public Works~~ Municipal Services Department, the petitioner must install all temporary barriers necessary for the preservation of existing plant materials as approved by the Community Development Department. Wooden lath snow fencing, brightly colored plastic construction fencing, chain link fencing, or an alternative barrier securely anchored to fence posts must be installed at the periphery of the tree's drip line or beyond to protect the vegetation from all construction activities, including earthwork operations, movement and storage of equipment and materials.

That Section 14-501-09 through 14-501-10 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-501-09-I. Recreational vehicles and equipment shall be parked or stored as follows:

1. Residential front or street side yard—Such equipment shall be parked or stored on a paved, all-weather surface. No recreational vehicle or equipment shall be parked or stored within the right-of-way or over the sidewalk. No recreational vehicle or equipment shall be parked or stored on any lot within the vision clearance area as defined in Chapter 17 of the City Code.

14-501-10-B. Setbacks and Parking Surfaces.

1. Residential Districts. The following standards apply in all R districts:
 - (d) In R-A districts, on lots of five acres or more, aggregate may be used for driveways provided that the driveway approaches are constructed with the approval of the ~~Public Works~~ Municipal Services Department, and an asphalt/concrete parking pad for at least two vehicles is provided adjacent to the residential structure.

That Section 14-501-12 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-501-12 Parking area design

14-501-12-A. ~~Public Works~~ Design and Construction Manual. Off-street parking areas must comply with construction specifications in the ~~Public Works~~ Design and Construction Manual.

That Section 14-501-14 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-501-14 Loading

14-501-14-B. Design and Location

1. ~~Public Works~~ **Design and Construction** Manual. Loading and maneuvering areas must comply with construction specifications in the ~~Public Works~~ **Design and Construction** Manual.

That Section 14-502-02 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-502-02 Public Works Design and Construction Manual

All accesses or curb cuts to public rights-of-way must be designed in accordance with the ~~Public Works~~ **Design and Construction** Manual.

That Section 14-504-15 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-504-15-C. Locations. Off-site directional signs for a lot without street frontage on a collector or above street are allowed provided the sign is located on a contiguous property to which the sign message is applicable and that the contiguous property has frontage on a collector or above street. Such sign must be set back at least ten feet from all exterior property lines and not be placed in the sight triangle as defined in Chapter 17 of the City Code.

That Section 14-509-03 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-509-03-E. Street adequacy determinations prepared by consultants must follow the measurement and reporting procedures available in the ~~Public Works~~ **Municipal Services** Department.

That Section 14-509-05 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-509-05-B. The minimum safe stopping sight distance must be based on the posted regulatory speed limit for the respective street segment. Advisory speeds used with warning signs may not be used in the determination of safe stopping sight distance required. For streets that are not posted, the design speed based on the functional classification of the street must be used. Refer to the City's Comprehensive Plan and the City Street Standards in the ~~Public Works~~ **Design and Construction** Manual to determine the appropriate design speed.

That Section 14-509-12 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-509-12-D. Analyses under this section are not required if any of the following applies:

1. The existing pavement section has been determined adequate for at least the proposed amount of additional traffic by the City ~~Public Works~~ **Municipal Services** Department; or
2. The street being considered is on the City of Independence Capital Improvement Program schedule for resurfacing at the appropriate width within three years from the proposed start date of construction.

That Section 14-509-19 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-509-19 Trip distribution

Site generated traffic volumes must be assigned to the street network within the impact area by the applicant (applicant's consultant) using the distribution factors approved by the ~~Public Works~~ **Municipal Services** Department. The developer/consultant must conduct traffic studies necessary to justify trip distribution factors prior to submission of the TIS.

That Section 14-510-01 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-510-01 - Standards

For intersection visibility, review the standards of Chapter 17, Article 1, of the City Code, ~~Public Works~~ **Municipal Services** Regulations, for traffic and pedestrian safety.

That Section 14-600-02 through 14-600-04 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-600-02 - Installation and construction

Required improvements must be installed in accordance with the provisions of this development ordinance, the ~~Public Works~~ Design and Construction Manual, and the City Code.

14-600-03-B. Exceptions.

1. No surety is required for electrical, water, telephone, natural gas, or cable television improvements. This provision does not affect the intent or enforcement of any existing guarantee, escrow or renewal, extension or replacement required by those agencies.
2. The Community Development Director or ~~Public Works~~ Municipal Services Director may mandate that specific required improvements be installed before approval of the final plat, issuance of a building permit, or issuance of a certificate of occupancy, if they determine that failure to install the improvement prior to further development could result in damage to the site, surrounding properties or threats to the public health safety or general welfare.
3. No building permits may be issued for model homes until the sanitary sewer is operational and accepted, all fire hydrants required to serve the subject development and at least the 1st lift of asphalt has been installed on subdivision streets. The maximum number of model homes is five homes per project phase.
4. All required subdivision perimeter and entryway landscaping and all required perimeter screening must be installed at the first seasonal planting opportunity after the final plat is recorded. All remaining common area landscaping and landscaping not on an individual lot must be installed at the first seasonal planting opportunity after the first certificate of occupancy in the subdivision is issued.
5. The developer must install all required sidewalks on all open space and common subdivision properties no later than three years after the date that the abutting street is accepted. The developer must also install the required sidewalks on all vacant lots to connect to sidewalks on adjoining occupied lots to the nearest intersecting street no later than three years after the date that the abutting street is accepted to provide a continuous length of sidewalk. The sidewalk for each individual lot must be completed and approved before an occupancy permit for a building on the lot is issued. If less than 65 percent of the lots facing the same direction between two adjacent streets have been built, the developer may install an alternative temporary surface across the front of any undeveloped lot until such time as that lot is developed, but not for a period greater than six years. Any alternative surface must be approved by the Director of ~~Public Works~~ Municipal Services.

14-600-04-C. Letters of Credit.

1. Letters of credit must be in the form of an irrevocable letter of credit drawn on a local financial institution, in a form approved by the City Counselor and either the ~~Public Works~~ Municipal Services Director or the Community Development Director.
2. The instrument may not be drawn on any financial institution with whom the developer or a related entity has any ownership interest or with whom there is any joint financial connection that creates any actual or potential lack of independence between the institution and the developer.3.A letter of credit must provide that the issuing institution will pay on demand to the City such amounts as the City may require to fulfill the developer's improvement and maintenance obligations and may be reduced from time to time in writing upon direction of the Public Works Director or Community Development Director.
3. A letter of credit must provide that the issuing institution will pay on demand to the City such amounts as the City may require to fulfill the developer's improvement and maintenance obligations and may be reduced from time to time in writing upon direction of the ~~Public Works~~ Municipal Services Director or Community Development Director.
4. A letter of credit must be irrevocable for least one year and must state that any amount related to work not completed at the expiration will automatically be deposited in cash with the City, unless a new

letter of credit is issued and agreed to by the City or the City issues to the institution a written release of the obligations for which the letter of credit was deposited.

5. The developer must pay a non-refundable fee of \$200.00 to the City with submission of a letter of credit and \$100.00 for any amendment or extension of a letter of credit, to partially reimburse the City's administration and review costs in accepting and maintaining letters of credit.

That Section 14-600-07 through 14-600-10 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-600-07 Release of construction deposits

14-600-07-A. Authority. The ~~Public Works~~ Municipal Services Director or the Community Development Director may authorize release or reduction of required construction deposits. Such releases or reductions may be authorized only upon completion, inspection and approval of required improvements by the ~~Public Works~~ Municipal Services Director or the Community Development Director, as appropriate.

1. The ~~Public Works~~ Municipal Services Director is responsible for inspecting, approving and accepting monuments, sidewalks, streets, stormwater facilities, sanitary sewers, erosion and sedimentation control devices, grading, as-built drawings for such improvements, and other required engineering or ~~public works~~ Municipal Services-related improvements.

14-600-07-B. Extension of Completion Period.

1. If, at the end of the improvement completion period, all improvements shown on the approved engineering plans have not been completed, the developer may request, and the ~~Public Works~~ Municipal Services Director or the Community Development Director may grant, an extension of the improvement completion period for a period of up to two years.
2. In order to grant the extension, the ~~Public Works~~ Municipal Services Director or the Community Development Director must determine that the extension is necessary to facilitate adequate and coordinated provision of transportation, sanitary sewer, playgrounds, or other improvements, facilities or requirements.
3. In the event of an extension, deposits must be extended and approved by the ~~Public Works~~ Municipal Services Director or the Community Development Director.

14-600-07-C. Deposit Release Procedure.

3. All improvements in a category may be deemed complete only when: (1) each and every component and line item within a category for the entire subdivision has been constructed and completed as required, (2) the developer has notified the City in writing of the completion of all components of the category, provided all necessary or requested documentation, and requests an inspection, (3) the developer is not in default or in breach of any obligation to the City under this section including, but not limited to, the City's demand for maintenance or for deposit of additional sums for the subdivision, (4) the inspection has been completed and the results of the inspection have been approved in writing by the ~~Public Works~~ Municipal Services Director and the Community Development Director.

14-600-07-E. Final Construction Deposit Release. Upon final inspection and approval of all required improvements, the remaining amount of the construction deposit must be released, provided that the deposit may not be released until development of the subdivision is complete, as determined by the Directors of ~~Public Works~~ Municipal Services or Community Development and the as-built drawings required by Chapters 17 and 20 of the City Code have been submitted to and approved by the Director of ~~Public Works~~ Municipal Services.

14-600-08 - Maintenance guarantees

14-600-08-C. Amount and Use.

2. Maintenance deposits may be used, by order of the ~~Public Works~~ Municipal Services Director or Community Development Director, to defray or reimburse any costs to the City of

maintenance or repair of improvements related to the subdivision that the developer fails or refuses to perform. Such costs include off-site damage caused by deficiencies in the improvements or failure of maintenance.

3. Except in emergency circumstances or where action is otherwise required before written notice can be provided, the ~~Public Works~~ Municipal Services or Community Development Director must provide the developer with a written demand and opportunity to perform the maintenance before having such maintenance performed by the City.
4. The ~~Public Works~~ Municipal Services Director and Community Development Director have authority to require the maintenance deposit to be placed or replenished by the developer in any form permitted for an original deposit where the amount remaining is determined to be insufficient or where the maintenance deposit was drawn upon by the City for maintenance.
5. In determining the amount of maintenance deposit to be held, portions of the deposit amount that were attributable to improvement that have been accepted by any third-party governmental entity or utility legally responsible for the maintenance of the improvement may be released upon such acceptance of the improvement by the entity. The ~~Public Works~~ Municipal Services or Community Development Director may approve such further releases if they determine, after inspection of the improvements, that the total maintenance amount retained exceeds the amount necessary for completion of the maintenance obligation, after all reasonable contingencies are considered.

14-600-08-D. Final Maintenance Deposit Release. Upon expiration of the developer's maintenance obligations, the ~~Public Works~~ Municipal Services Director or Community Development Director must perform a final inspection of the required improvements. Funds must then be released if there are no defects or deficiencies found and all other obligations are shown to be satisfied during the inspection, or at such time as any defects or deficiencies are cured with the permission of, and within the time allowed by, the ~~Public Works~~ Municipal Services and Community Development Directors. This release does not constitute indemnification or release of any person from any civil liability that may exist for defects or damages caused by any construction, improvement or development for which any deposit have been released.

14-600-09 - Failure to complete improvements

14-600-09-C. If, after the improvement completion period and any extensions granted, the improvements indicated on the approved engineering plans are not constructed, completed, installed, accepted and maintained as required, or if the developer violates any provision of the deposit agreement, the ~~Public Works~~ Municipal Services Director or Community Development Director may notify the developer to show cause, within ten days, why the developer should not be declared in default.

14-600-09-D. Unless good cause is determined to exist by the ~~Public Works~~ Municipal Services Director or Community Development Director, no building or other permit may be issued to the developer in the subdivision during any period in which the developer is in violation of the deposit agreement or City Code relating to the subdivision.

14-600-09-E. If the developer fails to cure any default or present compelling reason why no default should be declared, the ~~Public Works~~ Municipal Services Director or Community Development Director must declare the developer in default and take any one or more of the following actions:

1. Deem the balance under the deposit agreement forfeited to the City, in which case the funds will be placed in an appropriate account subject to the order of the ~~Public Works~~ Municipal Services Director or the Community Development Director for the purpose of letting contracts to bring about the completion or maintenance of the improvements indicated on the approved engineering plans or other appropriate purposes in the interest of the public safety, health and welfare;

14-600-10 - Other remedies for default

14-600-10-A. Applicability. The "other remedies" provided in this section may be used if:

1. The developer or surety fails to comply with the ~~Public Works~~ **Municipal Services** Director's or Community Development Director's requirements for payment; or

14-600-10-B. Available Remedies. The following "other remedies" are authorized:

1. The ~~Public Works~~ **Municipal Services** Director or Community Development Director may suspend the right of anyone to build or construct on the undeveloped portion of the subdivision.
 - (a) For the purpose of this provision, the "undeveloped portion" of the subdivision means all lots other than lots that have been sold for personal use and occupancy or are under bona fide contract for sale to any person for personal use or occupancy.
 - (b) The ~~Public Works~~ **Municipal Services** Director or Community Development Director must give the developer at least ten days' written notice of an order under this subsection, with copies to all sureties who have outstanding obligations for any undeveloped portion of the subdivision.
 - (c) If, within the ten-day period after notice is given, the ~~Public Works~~ **Municipal Services** Director or Community Development Director determines that completion of the improvements and maintenance of streets has not been adequately assured, they may order construction suspended on the undeveloped portion of the subdivision.
 - (d) The order must be served on the developer, with a copy to the issuer of the surety, and a copy recorded with the County Recorder of Deeds. Public notice of the order must be conspicuously and prominently posted by the ~~Public Works~~ **Municipal Services** Director or Community Development Director at the subdivisions or lots subject to the order. No City official may authorize construction to take place contrary to the order.
 - (e) The suspension may be rescinded in whole or in part only when the ~~Public Works~~ **Municipal Services** Director or Community Development Director is convinced that completion of the improvements is adequately assured in all or an appropriate part of the subdivision and a guarantee of public street maintenance provided.
2. The ~~Public Works~~ **Municipal Services** Director or Community Development Director may suspend the rights of the developer, or any related entity, to construct structures in any development platted after the effective date of the suspension throughout the City's jurisdiction.
 - (a) The ~~Public Works~~ **Municipal Services** Director or Community Development Director must give the developer at least ten days' written notice of an order under this clause, with a copy to sureties known to have obligations outstanding on behalf of the developer or related entities.
 - (b) ~~Public Works~~ **Municipal Services** Director or Community Development Director must record an affidavit of the notice with the County Recorder of Deeds.
 - (c) If, within the ten-day period after notice is given, the ~~Public Works~~ **Municipal Services** Director or Community Development Director determines that completion of the improvements and maintenance of streets has not been adequately assured, they may order construction suspended.
 - (d) The order must be served upon the developer, with a copy to the surety, and a copy recorded with the County Recorder of Deeds. No City official may authorize construction to take place contrary to the order.
 - (e) The suspension may be rescinded in whole or in part only when the ~~Public Works~~ **Municipal Services** Director or Community Development Director is convinced that completion of the improvements is adequately assured in all or an appropriate part of the subdivision and a guarantee of public street maintenance provided.

14-600-10-C. Additional Remedies.

1. If any party fails to comply with any obligation under this article, the ~~Public Works~~ **Municipal Services** Director or Community Development Director may recommend that the City Counselor take appropriate legal action and may also withhold any building or occupancy permits to this developer or related entities until such compliance is cured.
2. The City has the right to partially or wholly remedy a developer's deficiencies or breached obligations under this development ordinance by set-off of any funds or developer assets otherwise held by the City, to the maximum extent permitted by law. Such set-off may occur upon written notice to the developer from the ~~Public Works~~ **Municipal Services** Director or the Community Development Director after the developer has failed to timely cure the deficiencies.

That Section 14-603-01 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-603-01 Street improvements required

14-603-01-A. **Internal Streets.** Developers must improve all internal subdivision streets in accordance with the standards of this development ordinance and the ~~Public Works~~ **Design and Construction** Manual.

That Section 14-603-03 through 14-603-06 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-603-03 - Private streets

14-603-03-C. Private streets must be constructed in accordance with the public street specifications of the ~~Public Works~~ **Design and Construction** Manual.

14-603-04 - Right-of-way width

Standards for the minimum right-of-way widths for subdivision streets and alleys are included within the specifications of the ~~Public Works~~ **Design and Construction** Manual.

14-603-04-A. Subdivisions that encompass existing street rights-of-way that do not comply with minimum right-of-way width standards may be required to dedicate within the subdivisions additional width so as to conform to the standards of this chapter and the ~~Public Works~~ **Design and Construction** Manual. If the subdivision is along one side of the right-of-way only, the width of additional dedication within said subdivision must be established by the City, but existing right-of-way plus required additional dedication may not exceed the full width required for the appropriate street classification.

14-603-05 - Pavement width

The minimum pavement width of interior streets and alleys are included within with the specifications of the ~~Public Works~~ **Design and Construction** Manual.

14-603-06 - Culs-de-sac

14-603-06-A. Culs-de-sac must be designed and constructed in accordance with the specifications of the ~~Public Works~~ **Design and Construction** Manual.

That Section 14-603-08 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-603-08 - Intersections

14-603-08-C. Street rights-of-way at intersections must be rounded to a radius of not less than 15 to 25 feet (depending on street type, traffic speeds and expected usage) unless otherwise expressly approved by the ~~Public Works~~ **Municipal Services** Director.

That Section 14-603-11 through 14-603-16 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-603-11 - Horizontal curves

The standards for horizontal alignment on all streets are included within the specifications of the Public Works Design and Construction Manual.

14-603-12 - Reverse curves

The standards for reverse curves are included within the specifications of the Public Works Design and Construction Manual.

14-603-13 - Traffic calming

The standards for traffic calming measures are included within the specifications of the Public Works Design and Construction Manual.

14-603-14 - Signs and traffic control devices

The standards for signs and traffic control are included within the specifications of the Public Works Design and Construction Manual.

14-603-15 - Sidewalks

Sidewalks must be designed and constructed in accordance with the Public Works Design and Construction Manual.

14-603-16 - Street lights

14-603-16-A. Responsibility for Installation.

1. Street lights must be designed and installed by the City in accordance with standards established by the City Council upon recommendation of the Public Works Municipal Services Director.

That Section 14-606-01 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-606-01 - General requirements

Culverts, sewers, and drainage structures must be installed by developers in accordance with the Public Works Design and Construction Manual, including required stormwater detention areas and erosion control measures necessary to serve the area included in an approved final plat or final site plan and to the extent necessary to prevent excess run off, flooding, and erosion, improvements identified on the associated plan/plat.

That Section 14-607-02 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-607-02 - Tree Preservation

- 14-607-02-B.** Trees within rights-of-way having diameters of greater than 12 inches must be plotted, and the developer may remove such trees and their root systems only where their removal is required by the Public Works Municipal Services Director.

That Section 14-607-04 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-607-04 - Topsoil

Topsoil must be redistributed and sodded or seeded. All seeding must be performed in accordance with the Public Works Design and Construction Manual.

That Section 14-702-02 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-702-02 - Preliminary plats

- 14-702-02-D. Contents of Preliminary Plats.** The preliminary plat must be prepared on a standard 24-inch by 36-inch sheet with the drawing oriented so that north is at the top of each sheet. All plans must be drawn to a standard engineering scale. The actual scale should be selected to best fit the sheet but must be at least one inch equals 100 feet. If multiple sheets are required, a map key must be provided. The preliminary plat consists of the following sheets:

5. [Stormwater Management Plan Sheet.] Stormwater management plan sheet providing the following information:
 - (a) A topographic drawing showing the area proposed to be platted and the extent of the drainage basin(s) in which it is located;
 - (b) A stormwater management plan, pursuant to the ~~Public Works~~ Design and Construction Manual, calculations, and proposed size, nature and location of all proposed storm drainage improvements; and
 - (c) Preliminary grading and erosion control measures.

14-702-04 - Final plats

14-702-04-B. Contents of Final Plat.

15. Statement dedicating all easements, streets, sidewalks, alleys and other public area, properly signed and acknowledged by appropriate persons, including certification and other language as may be required;
- (d) Certificate of approval to be signed and dated by the City Clerk, City ~~Public Works~~ Municipal Services Director, Community Development Director, and County Assessor. If a plat consists of more than one sheet, the certifications for City approval must be repeated on each sheet.

That Section 14-703-05 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-703-05 - Preliminary development plans

14-703-05-B. Application Contents.

4. The plan and supporting documents must include the following information:
 - (d) Topographical survey of the site at an interval of not more than five feet or more frequent interval, as required by the ~~Public Works~~ Municipal Services Department;

14-703-05-C. Phased Development Schedule. If the applicant proposes to develop a PUD in phases, the application must contain a proposed phasing schedule. In a phased development, open space and site amenities must be apportioned among the phases in proportion to the amount of development occurring in each phase, so that, for example, when the development is 40 percent complete, 40 percent of the open space and amenities will be complete, transferred to the association or other permanent owner, and properly restricted as required by this Code. Unless otherwise approved, the entire detention basin must be provided during phase one of the project. The ~~Public Works~~ Municipal Services Department may approve construction of detention facilities in more than one phase of the project.

That Section 14-901-06 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-901-06 - Other applicable regulations

Uses and development in the HSQ district are subject to other standards including the following:

14-901-06-E. Sidewalks. Sidewalks are required for all commercial developments. Sidewalks must be installed in the public right-of-way on both sides of all streets and must be constructed in accordance with the ~~Public Works~~ Design and Construction Manual.

That Section 14-910-06 of Chapter 14, UNIFIED DEVELOPMENT, of the Independence City Code is hereby amended to read as follows:

14-910-06 - Other applicable regulations

Uses and development in the ARTS district are subject to other standards including the following:

1. Landscaping and Screening. The regulations of Section 14-503, excluding Sections 14-503-08 and 14-503-09, do not apply.
2. Sidewalks. Sidewalks are required on both sides of all streets or in the context of the district. Any sidewalk required shall be installed in accordance with the ~~Public Works~~ Design and Construction Manual.
3. Accessory Uses and Structures. The regulations of Section 14-400 apply.

That Section 15.01.001 through 15.01.003 of Chapter 15, PUBLIC IMPROVEMENTS AND SPECIAL ASSESSMENTS, of the Independence City Code is hereby amended to read as follows:

Sec. 15.01.001. Special assessment procedure governed by the Charter and this article.

Procedure for assessing benefitted real property for all or part of the cost of ~~public works~~ Municipal Services or improvements shall be governed by the City Charter, Article 11, and by this article of this Code of Ordinances.

Sec. 15.01.002. Director of ~~Public Works~~ Municipal Services to hold public hearings.

The Director of ~~Public Works~~ Municipal Services shall hold all public hearings as contemplated and provided for in Section 11.4 of the City Charter.

Sec. 15.01.003. Director of ~~Public Works~~ Municipal Services to report recommendations to Council.

The Director of ~~Public Works~~ Municipal Services shall, at the Council meeting next following the date of the holding of the public hearing, in writing, report his recommendations to the City Council regarding the contemplated special assessment project; provided that the Council may permit such report to be made at a later Council meeting.

That Section 15.01.005 through 15.01.007 of Chapter 15, PUBLIC IMPROVEMENTS AND SPECIAL ASSESSMENTS, of the Independence City Code is hereby amended to read as follows:

Sec. 15.01.005. Levy and assessment of costs.

Upon the completion or acquisition of any public work or improvement, the cost of which is to be paid in whole or in part by special assessments, or in special tax bills or other evidences of special assessments, or out of the revolving improvement fund to be reimbursed by collection of special assessments, the City Manager shall cause the entire cost thereof which is to be charged against the individual parcels of land in the benefit district, to be computed by the Director of ~~Public Works~~ Municipal Services.

Sec. 15.01.006. Director of ~~Public Works~~ Municipal Services to report to Council—Ordinance assessing costs, etc.

The Director of ~~Public Works~~ Municipal Services shall apportion the cost among the tracts of land chargeable therewith, assigning each tract of land its proportionate part of the costs to be assessed and shall make a written report to the Council that the improvement has been completed in accordance with the contract for same if done by City forces, which report shall also contain a description of each tract of land chargeable with a part of the cost of the improvement, and the recommended amount with which it is chargeable. If the Council accepts the work, it shall pass an ordinance levying and assessing the cost or the part thereof to be paid by special assessments, or in special tax bills, or out of the revolving improvement fund to be reimbursed by collection of special assessments, against the individual parcels of land in the benefit district, and fixing the amount of said cost to be charged against each parcel, and directing the issuance of any special tax bills to be issued.

Sec. 15.01.007. Preparation and issuance of tax bills.

After the Council has passed an ordinance levying and assessing the cost of the part thereof to be paid by special assessments, special tax bills or other evidence of special assessments against the individual parcels of land in the benefit district, and has directed the issuance of special tax bills therefore, then said special tax bills shall be prepared by the office of the Director of ~~Public Works~~ Municipal Services, who shall, upon their completion, certify same and shall forward the special tax bills to the Director of Finance, who shall countersign said special tax bills and register same.

That Section 16.03.002 of Chapter 16, PUBLIC UTILITY SERVICES, of the Independence City Code is hereby amended to read as follows:

Sec. 16.03.002. Street excavation, pole setting and construction.

The Telephone Utility shall perform all street excavations, pole setting and construction in conformity with the City Code and the Rules and Regulations contained within the ~~Public Works~~ Design and Construction Manual, as amended.

That Section 16.04.002 of Chapter 16, PUBLIC UTILITY SERVICES, of the Independence City Code is hereby amended to read as follows:

Sec. 16.04.002. Excavation, refilling and paving of streets and other public places.

- A. The Gas Utility shall pay all or any part of the cost of improvement or maintenance of streets, alleys, bridges, easements and other public places that arises from the laying or repairing of gas mains and pipes.
- B. The Gas Utility shall limit all excavations of streets, alleys or other public places to the necessity of efficient operation in laying or repairing gas mains or pipes and shall not permit such excavations to remain open longer than necessary.
- C. The Gas Utility shall refill all excavations and replace all pavement in accordance with the Street Opening Procedures of the City contained within the ~~Public Works~~ Design and Construction Manual, as amended.
- D. The Gas Utility shall repay the City all expenses to which the City has been put in the repair or replacement of streets, highways or pavements in the event such work is done by the City, in accordance with established procedures contained within the ~~Public Works~~ Design and Construction Manual, as the same may be amended from time to time.
- E. The Gas Utility shall file with the Director of ~~Public Works~~ Municipal Services drawings and maps of the proposed location and type of gas mains and other facilities.

That Section 16.05.004 of Chapter 16, PUBLIC UTILITY SERVICES, of the Independence City Code is hereby amended to read as follows:

Sec. 16.05.004. Customer service rules and regulations

The Electric Utility Director, ~~the Water Utility Director~~ and the ~~Water Pollution Control~~ Municipal Services Director may from time to time promulgate rules and regulations concerning but not limited to, customer service issues including billing, deposits, collections, application for service, metering, meter reading, and utility right of access. Such rules and regulations shall be approved by ordinance of the City council and shall be filed with the City Clerk and made available for public inspection during all regular business hours.

That Section 16.06.001 of Chapter 16, PUBLIC UTILITY SERVICES, of the Independence City Code is hereby amended to read as follows:

Sec. 16.06.001. Water service lines under streets.

- A. From and after June 21, 1943, all water service lines and replacement lines extending from the main water supply line to private consumers that pass underneath the surface of any street shall be constructed of Type K copper and shall be installed in accordance with the ~~Public Works~~ Design and Construction Manual.
- B. Whenever it is discovered that a service line is being, or has been, installed in violation of Paragraph A above, the ~~Public Works~~ Municipal Services Director shall issue an order to the person, firm or corporation installing the service line to correct the defect within a reasonable time, as determined by the ~~Public Works~~ Municipal Services Director. Failure of the person, firm or corporation to correct the defect within the specified time shall constitute a violation of this section.

That Section 16.06.003 of Chapter 16, PUBLIC UTILITY SERVICES, of the Independence City Code is hereby amended to read as follows:

Sec. 16.06.003. Customer service rules and regulations.

The Electric Utility Director, ~~the Water Utility Director~~, and the ~~Water Pollution Control~~ Municipal Services Director may from time to time promulgate rules and regulations concerning, but not limited to, customer service

issues, including billing, deposits, collections, application for service, metering, meter reading and utility right of access. Such rules and regulations shall be approved by ordinance of the City Council and shall be filed with the City Clerk and made available for public inspection during all regular business hours.

That Section 16.07.002 of Chapter 16, PUBLIC UTILITY SERVICES, of the Independence City Code is hereby amended to read as follows:

Sec. 16.07.002. List of utilities.

That the following enterprises of the City are hereby declared to be municipally owned utilities:

1. Electric Utility Fund (Power and Light Department).
2. Water Fund (~~Water~~ **Municipal Services** Department).
3. Sanitary Sewer Fund (~~Water Pollution Control~~ **Municipal Services** Department).

That Section 16.08.002 of Chapter 16, PUBLIC UTILITY SERVICES, of the Independence City Code is hereby amended to read as follows:

Sec. 16.08.002. Responsibility to record.

The Power and Light Department, ~~Water Department, Public Works Department and Water Pollution Control~~ **and Municipal Services** Department are each hereby authorized and directed to record all donated utility easements and rights-of-way at the Jackson County Courthouse Department of Records.

That Section 17.02.002 of Chapter 17, MUNICIPAL SERVICES REGULATIONS, of the Independence City Code is hereby amended to read as follows:

Sec. 17.02.002. Roadway ditches.

The City reserves the right to maintain roadside ditches, in accordance with the written policy established in the Municipal Services Department. This work, if required, shall be performed in accordance with applicable provisions of the Design and Construction Manual. Prior to the approval of a Survey Development for residential development of tracts from three to nine acres, roadway ditches and shoulders must be constructed according to the Manual, Section 20.04.002(8), Standard Detail Sheet "H", "Rural Streets." Smaller parcels must provide full storm water facilities according to the City Code.

That Section 17.05.012 of Chapter 17, MUNICIPAL SERVICES REGULATIONS, of the Independence City Code is hereby amended to read as follows:

Sec. 17.05.012 Use of right-of-way generally.

- A. The ROW-user shall coordinate the placement of facilities in a manner that minimizes adverse impact on any public improvement, as reasonably determined by the City. Where placement is not regulated, the facilities shall be placed with adequate clearance from such public improvements so as not to impact or be impacted by such public improvement as defined in the City's Design and Construction-Manual.
- B. All facilities shall be located and laid so as not to disrupt or interfere with any pipes, drains, sewers, irrigation systems or other structures or public improvements already installed. In addition, the ROW-user shall, in doing excavation or work in connection with its facilities, avoid disrupting or interfering with the lawful use of the streets, alleys, sidewalks, or other public lands of the City except as may be specifically authorized by a temporary traffic control authorization.
- C. All facilities of the ROW-user shall be placed so that they do not interfere with the use of right-of-way and public lands. The City, through its Director, shall have the right to consult and review the location, design, and nature of the facility prior to installation.
- D. The ROW-user shall not interfere with the facilities and structures of the other ROW-users without their permission. If and when the City requires or negotiates to have a ROW-user cease using its existing poles and to relocate its facilities underground, all other ROW-users using the same poles shall also relocate their facilities underground at the same time. The cost of such relocation shall be borne in accordance with this article and the Commission-approved applicable tariff governing that ROW-user.

- E. All facilities and other appurtenances laid, constructed, and maintained by the ROW-user shall be laid, constructed, and maintained in accordance with acceptable engineering practice and in full accord with any and all applicable engineering codes adopted or approved by the City, the Code, the City's Design and Construction ~~Construction and Design~~ Manual, applicable statutes of the State of Missouri, and rules and regulations of the FCC, the Commission, or any other local, state or federal agency having jurisdiction over the ROW-user.
 - 1. Facilities may not be constructed or placed within the roadway clear zone as established by the Manual, applicable policies, and accepted industry standards.

That Section 17.08.010 of Chapter 17, MUNICIPAL SERVICES REGULATIONS, of the Independence City Code is hereby amended to read as follows:

Sec. 17.08.010. Special permits.

- A. If the Director of ~~Public Works~~ Municipal Services shall determine that the purpose for which the permit is to be used can be fulfilled in less than one year and the purpose is one for non-mining activities, the Director may issue a permit for such time as is determined to be sufficient for the proposed use. Applicants for such permits must meet the requirements of this article, and the Director of Municipal Services may impose such other conditions upon such special permits as shall be determined reasonable and necessary to protect the health, welfare, safety and property of the citizens of the City.
- B. Any permittee issued a permit under the provisions of this section shall have the option of monitoring any blasts done under authority of said permit by calculating the scaled distance of those blasts. In the absence of instrumentation the minimum scaled distance shall not be less than 100.

That Section 17.09.001 of Chapter 17, MUNICIPAL SERVICES REGULATIONS, of the Independence City Code is hereby amended to read as follows

Sec. 17.09.001. Scope.

This article applies to all required detention facilities constructed as part of a development plan, whether the facility is located upon an easement or private property. A detention facility is any physical structure used to control runoff as required by the Design and Construction Manual and approved by the Director of Municipal Services.

- B. The Director of Municipal Services, or an authorized representative shall have the power to enter upon any private property at all reasonable times to inspect and investigate any tree that may be in a hazardous condition.

That Section 17.12.002 of Chapter 17, MUNICIPAL SERVICES REGULATIONS, of the Independence City Code is hereby amended to read as follows:

Sec. 17.12.002. Defective trees—Abatement.

- A. *Notification.* The owner or owners of any private property upon which a hazardous tree or trees exists shall be served written notice by the Director of Municipal Services that such a condition exists. The notice shall be by registered mail, certified mail or a similar special mail or by personal service of the Director of Municipal Services. If the owner or owners cannot be located by mail, the notice shall be published once each week for two consecutive weeks in a newspaper of general circulation within the City.
- B. *Notice Contents.* The notice shall contain the legal description and street address of the property, designate the hazardous tree or trees, notify the owner or owners of the property where such hazardous tree or trees exist and establish the time frame for removal of the hazardous tree or trees.
- C. *Notice Noncompliance.* If the owner or owners of the hazardous tree or trees do not comply with the written notice, the Director of Municipal Services shall have the work done by contract with private persons or by regular employees of the City as provided in Chapter 11 of the Charter of the City of Independence. The Director of Municipal Services shall keep an accurate record of the costs of removing the tree or trees and use such records in computing the costs of such work so that a special tax bill may be levied against the property as provided in Section 11.16 of the Charter.

- D. *Tax Bill.* As part of the cost of removal of the tree or trees, each such tax bill shall include a charge of \$10.00 for inspecting the premises, and a further charge of \$10.00 for computing, making, certifying, recording and issuing the special tax bill.
- E. *Interest.* Each special tax bill shall bear interest at the rate and in accordance with the provisions of Chapter 20, Article ~~12~~ 2, of the City Code.

That Section 17.13.001 of Chapter 17, MUNICIPAL SERVICES REGULATIONS, of the Independence City Code is hereby amended to read as follows:

Sec. 17.13.001. Application.

Application for a clearing and grubbing permit shall be made to the Director of Municipal Services, on forms furnished, and may include, but not limited to, plans in duplicate showing the nature, location, dimensions, and elevations of the area to be cleared and grubbed. This permit is required on properties where building demolition is proposed. Specifically, the following information is required.

1. Contour lines in relation to mean sea level.
2. An approved Tree Preservation and an Approved Sensitive Area Preservation Plan shall be provided in accordance with Chapter 14.
3. An erosion control plan in accordance with applicable provisions of the Design and Construction Manual, Chapter 20, Article 16.

That Section 18.01.001 of Chapter 18, TRAFFIC, of the Independence City Code is hereby amended to read as follows:

Sec. 18.01.001. Terms defined.

Whenever in this chapter the following terms are used, they shall have the meaning respectively ascribed to them in this section:

ACCIDENT means a collision between a vehicle and another vehicle, railroad train, person, or stationary object, or the overturn or upset of a vehicle which results in property damage, personal injury, or death; or an entry into or emerging from a moving vehicle by a person which results in personal injury or death to such person.

ACCIDENT REDUCTION ZONE means an arterial street segment so identified by engineering study of traffic volume, speed and accidents as susceptible to reduction of accidents by means of concentrated traffic enforcement and which is so marked or indicated by adequate signs as to be plainly visible at all times while designated as an Accident Reduction Zone.

ALLEY means a minor, permanent, public service-way that is used primarily for vehicular-service access to the back or the side of properties otherwise abutting on public streets.

ALL TERRAIN VEHICLE means any motorized vehicle manufactured exclusively for off-highway use which is 50 inches or less in width, with an unladen dry weight of 600 pounds or less, traveling on three or more low pressure tires, with a seat designed to be straddled by the operator, and handlebars for steering control.

BICYCLE means every vehicle propelled solely by human power upon which any person may ride, having two tandem wheels, except scooters and similar devices.

BUSINESS DISTRICT means the territory contiguous to a street when 50 percent or more of the frontage thereon for a distance of 300 feet or more is occupied by buildings in use for business.

BUS ZONE means a portion of a roadway adjacent to the curb which has been marked by appropriate signs or painted markings, and shall have the primary purpose of standing by buses while loading and unloading passengers.

CENTRAL TRAFFIC DISTRICT means the area of the City bounded by and including Truman Road on the north, Noland Road on the east, Walnut Street on the south, and Pleasant Avenue on the west.

CHURCH BUS means a motor vehicle designed to transport more than ten persons, and owned or operated by, and used to transport persons to churches, mosques, synagogues, temples or other houses of worship.

CITY means the City of Independence, Missouri.

COMMERCIAL DRIVERS LICENSE means a license issued by a state to an individual authorizing the individual to operate a commercial motor vehicle.

COMMERCIAL MOTOR VEHICLE means a motor vehicle designed or used to transport passengers or property:

1. If the vehicle has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit which has a gross vehicle weight rating of 10,001 pounds or more;
2. If the vehicle has a gross vehicle weight rating of 26,001 or more pounds or such lesser rating as determined by Federal regulations;
3. If the vehicle is designed to transport more than 15 passengers, including the driver; or
4. If the vehicle is transporting hazardous materials and is required to be placarded under the Hazardous Materials Transportation Act (46 U.S.C. 1801 et seq.).
5. If the vehicle is transporting passengers or property for hire.

CROSSWALK means that part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the street measured from the curbs, or in the absence of curbs from the edges of the traversable roadway; or pedestrian crossing by lines or other markings on the surface.

CURB means the lateral boundaries of a roadway, whether or not marked by curbing.

DAYTIME means from 30 minutes before sunrise until 30 minutes after sunset.

DIRECTOR means the Director of ~~Public Works~~ Municipal Services, or a designee, unless stated otherwise herein.

That Section 18.02.001 of Chapter 18, TRAFFIC, of the Independence City Code is hereby amended to read as follows:

Sec. 18.02.001. Authority of Director of ~~Public Works~~ Municipal Services to make regulations.

- A. The Director is hereby authorized and empowered to establish regulations governing City-wide traffic operations in accordance with Federally prescribed standards for traffic control and public safety, which regulations shall remain in effect until repealed by the Director. These regulations shall be maintained in the offices of the City Clerk, ~~Public Works~~ Municipal Services Director, and the Police Chief. Regulations shall be available for public inspection during normal business hours.
- B. The Director is hereby authorized and empowered to make regulations governing traffic in case of emergency or special conditions that public safety, convenience, and the expedition of traffic may demand, which regulations shall be effective for the period of the duration of such emergency or special condition, and no longer.
- C. The Director is hereby authorized and empowered to establish such regulations that will provide for uniformity of regulation between places of similar traffic conditions and for the purpose of affording tests as to the remedial effect of such regulations at such places, upon finding that public safety, convenience, and the expedition of traffic demand their application in such manner and at such places as may conform to guidelines prescribed in Federal standard and by other generally accepted traffic engineering practices. Regulations shall include:
 1. Placement of official traffic control devices.
 2. Designated safety zones.
 3. Designated intersections where stopping or reduction of speed is required.
 4. Designated bus zones.
 5. Designated locations of passenger and loading zones and taxicab stands.
 6. Designated one-way streets and alleys.
 7. Regulated left and right-hand turns of vehicles entering or leaving any street intersection.

8. Designated parking districts and the time limit for parking therein.
 9. Designated angle parking locations.
 10. Designated streets upon which parking is regulated under any other articles of this chapter.
 11. Designated streets as "through streets" requiring stops before entering the same.
 12. Designated streets and intersections where speeds other than basic speed limits shall apply.
 13. Designated streets and sections of streets where passing shall be prohibited.
 14. Designated sections of streets of limited-access roadways where nonmotorized traffic shall be prohibited.
 15. Designated intersections where the driver of a vehicle entering from one street shall yield to drivers from other streets.
 16. Designated traffic lanes upon the roadway of any street for the purpose of channeling or regulating the flow of traffic.
 17. Designated temporary construction zones regulating speed limits, required stops, lane usage and turns.
 18. Designated temporary accident reduction zones for periods of up to six months with adequate signs indicating the zone location and penalties for violation.
- D. The Director shall issue Letter of Official Notice of all permanent and emergency traffic regulations to City Managers Office, Chief of Police, and City Clerk upon approval of the regulation. The regulations shall become effective for enforcement at the time the Director issues the Letter of Official Notice.
- E. Lists of locations governed by traffic regulations shall be maintained in the offices of the City Clerk, ~~Public Works~~ Municipal Services Director, and the Police Chief. Lists of regulated locations shall be available for public inspection during normal business hours.

That Section 18.02.003 of Chapter 18, TRAFFIC, of the Independence City Code is hereby amended to read as follows:

Sec. 18.02.003. Authority to close streets for construction, emergency, and public events.

- D. On the roadway of any street it shall be unlawful, without a permit specifying the particular activity, to do the following:
4. Make or leave any incomplete cut or backfill or to place any material, equipment, barricades or other obstruction in the roadway outside the limitations defined in the permit for allowable time and date to conduct the work; provided however, that a cut may be left incomplete if it is properly protected in accordance with the ~~Public Works Department~~ Design and Construction manual. The permittee shall be liable and responsible for the replacement of backfill and pavement removed to effect installation and repair of facilities which underlie any public street, road, boulevard, alley, drive or public passageway, such replacements to be in strict conformity with standards, specifications, codes, requirements and guarantees as set forth in City ordinances, charter regulations and departmental regulations. Until a complete pavement has been replaced, the person to whom the street cut permit was issued shall be responsible for maintaining any necessary lights, barricades, or plates and maintaining backfill to pavement level to eliminate tire damage and traffic hazard."

That Section 18.19.008 of Chapter 18, TRAFFIC, of the Independence City Code is hereby amended to read as follows:

Sec. 18.19.008. Brakes.

- A. All motor vehicles, except motorcycles, shall be provided at all times with two sets of adequate brakes kept in good working order, and motorcycles shall be provided with one set of adequate brakes kept in good working order.
- B. It shall be unlawful for any person to use, operate or engage any compression release engine braking system, commonly referred to as a jake brake, 65acobs brake, engine brake, or similar term, within the City

limits, except in an emergency Signs indicating the prohibition against use of such devices shall be prominently displayed at appropriate locations along officially designated truck routes, as determined by the Director of Public-Works Municipal Services.

That Section 19.01.004 of Chapter 19, TRANSPORTATION, of the Independence City Code is hereby amended to read as follows:

Sec. 19.01.004. Motor bus stops—Approval of Director of Public-Works Municipal Services required.

No person shall engage in the motor bus business in the City without first securing the written approval of the Director of Public-Works Municipal Services of all places or locations of regular stops along the route to be traversed by said motor bus.

That Section 19.01.023 of Chapter 19, TRANSPORTATION, of the Independence City Code is hereby amended to read as follows:

Sec. 19.01.023. Buses to stop and stand in designated bus stops.

No motor bus, while waiting for time to depart, shall stop or stand on any public street or place except on such place as shall be designated by the Director of Public-Works Municipal Services or where public parking is specifically authorized by ordinance.

That Section 19.05.010 of Chapter 19, TRANSPORTATION, of the Independence City Code is hereby amended to read as follows:

Sec. 19.05.010. Shortage of refuse collection service—How corrected.

Should the License Officer, on information supplied by the Director of Health or the Director of Public-Works Municipal Services, at any time find that there is not a sufficient number of refuse collection vehicles in operation to service and protect the public interest, he/she shall so notify the current certificate holders by certified mail directed to their addresses as they appear on their licenses. Should the certificate holders fail to correct this shortage or to agree to do so within 30 days from date of notification, the License Officer may make public notification of the opening for application for certificate of public convenience and necessity.

That Section 19.05.015 of Chapter 19, TRANSPORTATION, of the Independence City Code is hereby amended to read as follows:

Sec. 19.05.015. Reporting requirements.

All collectors are to report on a quarterly basis to the City the amounts of solid waste, recyclables, and yard waste, that is collected. The amounts are to be separated into residential and nonresidential components. Reports on recyclable materials are to specify amounts of the various types of materials. The reports are to be submitted to the Public-Works Municipal Services Director on forms provided by the City within 30 days after the end of each calendar year quarter.

That Chapter 20 of the Independence City Code is hereby amended to read as follows:

CHAPTER 20 ~~PUBLIC WORKS MANUAL~~ DESIGN AND CONSTRUCTION FINES, FEES, AND ENFORCEMENT

ARTICLE 1. ~~PUBLIC WORKS MANUAL~~ MUNICIPAL INFRASTRUCTURE—GENERAL PROVISIONS

Sec. 20.01.001. Adoption of APWA Construction and Material Specifications.

The purpose of this Article is to establish minimum requirements for design, plans, testing, inspection, and supporting documents. The requirements herein, unless otherwise noted, apply to Residential Developments, Commercial Developments, and Capital Improvements, both public and private.

The Kansas City Metropolitan Chapter of the American Public Works Association (APWA) Specifications is hereby adopted by this Article with exceptions as outlined in the Design and Construction Manual developed by the City of Independence. Each and all the regulations, provisions, standard details, figures, tables, penalties, conditions and terms of the manual are hereby adopted by reference and made a part of this chapter, as if fully set out in this chapter, with the insertions, deletions and charges, if any, made in accordance with Section 20.01.002.

The Construction and Material Specifications, titled Section 2000, approved and adopted on October 21, 1981, by the Kansas City Metropolitan Chapter of the APWA is hereby adopted as Article 1 of the Public Works Manual, within the City Code of the City of Independence, Missouri, with the additions, insertions, deletions, and changes, if any, prescribed in the following sections of this article.

Sec. 20.01.002. Enforcement of chapter—Powers of Director.

A. General provisions.

1. The Director of Municipal Services or their authorized designees shall have the power and duty to enforce the provisions of the manual and all related ordinances of the City and shall have the power to issue a citation and summons to Municipal Court for any violations thereof.
2. Contractors/developers who fail to comply with or violate these standards may be required to; stop work, be refused final acceptance of work, permits, or future extensions; and/or be subject to an invalidation of any agreement within a development area until corrections are made to the satisfaction of the Director.
3. Violations of this manual are further subject to punishment in Municipal Court in accordance with 14-801 of the Uniform Development Ordinance.

B. Enforcement.

1. The City shall have the authority to issue orders to any person to immediately cease and desist violations of any provision of this Chapter, of any approved plan or of any consent orders entered into with the City under this section and to immediately correct said violations.
2. When any person is violating, or has violated, any provision of this Chapter, or of an approved plan, the City may issue to that person a notice of violation.
 - a. A notice of violation shall be in writing, shall describe the nature of the violation, including a reference to the provision within this Chapter that has been violated, and shall set a reasonable time for correction of the violation.
 - b. A person receiving a notice of violation shall submit to the City an explanation of the violation and a plan for the correction thereof within ten days after receipt of the notice, unless otherwise specified in the notice. The plan of correction shall include specific actions which will be taken to remedy the violation. Submission of this plan of correction shall not relieve said person of liability for any violations occurring before or after receipt of the notice of violation, nor other violations not addressed in the notice.
 - c. The City may enter into consent orders, assurances of voluntary compliance or other similar documents establishing an agreement with the any person. The agreement may include specific action to be taken by said person to correct the noncompliance within a specified time period.
3. The City may petition the Circuit Court for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the plans, order, or other requirements imposed by this Chapter.
4. Any person who violates any provision of this Chapter, or any order issued by the City hereunder, shall be subject to the following:
 - a. Stop work orders, or denial of applications for, or suspension or revocation of any license or permit issued by the City of Independence.
 - b. Prosecution in Municipal Court with fines of up to \$500.00. Each day that a violation continues shall be deemed a separate offence.
 - c. Recovery of the costs to restore and repair buffer areas.
 - d. Civil action for injunctive relief and recovery of costs, including legal fees.

Sec. 20.01.003. Completion of development projects.

All developments with respect to which an application for a preliminary development plan (PDP) or preliminary plat was filed prior to the effective date of this chapter may be completed in accordance with the terms of the City of Independence Municipal Code which was in effect prior to the effective date of this chapter, so long as construction begins within twelve (12) months of the approval of the application. If such a development is approved for completion in stages, this subsection shall apply only to the phase for which engineering plan approval is granted.

Sec. 20.01.002. Additions, insertions, deletions, and changes.

The following numbered subsections and provisions of the approved edition of the APWA Construction and Material Specifications adopted by Section 20.01.001, are hereby amended to read as follows:

~~Sec. 2003. Add this section to read as follows:~~

~~"Prior to final acceptance of streets, storm sewers and sanitary sewers the developer shall furnish the City with as-built drawings. Two prints and one reproducible copy will be required."~~

~~Sec. 2004. Add this section to read as follows:~~

~~"A. Where in these specifications the following abbreviations are used, they shall be understood to mean as follows:~~

~~A.A.S.H.T.O. American Association of State Highway Transportation Officials~~

~~A.C.I. American Concrete Institute~~

~~A.I.S.C. American Institute of Steel Construction~~

~~A.P.W.A. Kansas City Metropolitan Chapter of the American Public Works Association~~

~~A.R.E.A. American Railway Engineering Association~~

~~A.S.T.M. American Society for Testing and Materials~~

~~A.N.S.I. American National Standards Institute~~

~~A.W.W.A. American Water Works Association~~

~~C.R.S.I. Concrete Reinforcing Steel Institute~~

~~M.C.I.B. Mid West Concrete Industry Board, Inc.~~

~~M.H.T.C. Missouri Highway and Transportation Commission~~

~~M.U.T.C.D. Manual of Uniform Traffic Control Devices~~

~~B. The serial designation of each reference shall be the latest year of adoption or revision, unless otherwise specified."~~

~~Sec. 2005. Add this section to read as follows:~~

~~A. In these specifications the following words or terms are used, they shall be interpreted as follows:~~

~~CITY shall mean the City of Independence, Missouri.~~

~~CONSTRUCTION SPECIFICATIONS are the complete directions, provisions, and requirements contained in the Standard Specifications and Standard Drawings as may be necessary to describe work and the quality of materials to be furnished under the Permit.~~

~~CONTRACTOR shall mean the individual, firm, partnership, joint venture, corporation, or association contracting with the City, or private owner, to perform the work.~~

~~DIRECTOR shall mean the Director of Public Works.~~

~~ENGINEER shall mean the City Engineer or any Engineer, Architect or Agent designated by the Director of Public Works.~~

~~MATERIALS are any processed, manufactured or natural items placed in the work.~~

~~OR-EQUAL: In order to establish a basis of quality for items of the work, certain processes, equipment, proprietary products or materials and their manufacturer may be mentioned by name. Such mention is not intended to exclude other processes, equipment, proprietary products or materials and their manufacturer, provided they are proven by the Contractor, to the satisfaction of the Engineer, to be equal in quality and performance to the name specified prior to their inclusion in the work.~~

~~PERMIT shall mean the official document issued by the City, authorizing the construction of an improvement, subject to City inspection, control and approval.~~

~~PLANS are the official drawings, Standard Drawings, profiles and typical cross-sections approved or furnished by the Engineer which show the location, character, dimensions and details of the work.~~

~~PRIVATE OWNER shall mean the individual, corporation, partnership, joint venture, association or other legal entities paying all costs associated with the construction of an improvement under a permit granted by the City.~~

~~PUBLIC WORKS MANUAL shall mean the Standard Drawings and Standard Specifications as adopted by the City.~~

~~STANDARD DRAWINGS shall mean the official standard drawings approved by the Director and adopted by the City Council.~~

~~STANDARD SPECIFICATIONS shall mean the official standard specifications approved by the Director and adopted by the City Council.~~

~~STREET shall mean the whole area within the legally established right of way limits.~~

~~SUBGRADE is that portion of the construction area which has been prepared, as specified, and upon which a layer of specified material, sub-base course, base course, pavement or other improvement is to be placed.~~

~~TRAFFIC CONTROL shall mean any and all such devices as signs, pavement markings, barricades or other devices necessary for the temporary or permanent regulation, guidance, or warning of traffic as it travels on the public right-of-way in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).~~

~~WORK or THE WORK shall mean the furnishing of all labor, materials, equipment and other incidentals, necessary for the successful completion and the carrying out of all duties and obligations imposed by the permit or contract.~~

- ~~B. Where not inconsistent with the context, words used in the present tense include the future, words in the plural number include the singular number and words in the singular number include the plural number. The word 'shall' is always mandatory and not merely directory.~~

~~Secs. 20.01.0043—20.01.999. Reserved.~~

ARTICLE 2. STORM SEWER DESIGN CRITERIA

Sec. 20.02.001. Adoption of APWA Storm Drainage Design Criteria.

~~The Design Criteria for Storm Drainage Systems and Facilities, titled Section 5600, approved and adopted on March 21, 1990, by the Kansas City Metropolitan Chapter of the APWA, is hereby adopted as the Storm Sewer Design Criteria Code as a part of the Public Works Manual, within the City Code of the City of Independence, Missouri, with the additions, insertions, deletions, and changes, if any, prescribed in the following sections of this article.~~

Sec. 20.02.002. Additions, insertions, deletions, and changes.

~~The following numbered subsections and provisions of the approved edition of the APWA Design Criteria for Storm Drainage Systems and Facilities, adopted by Section 20.02.001, are hereby amended to read as follows:~~

Sec. 5601.2(H) Amend to read as follows:

"H. Development: Any activity, including subdivision, that alters the surface of the land to create additional impervious surfaces, including, but not limited to, pavement, buildings, and structures; except:

1. Additions to, improvements, and repair of existing single family and duplex dwellings.
2. Construction of any buildings, structures, and/or appurtenant service roads, drives, and walks on a site having previously provided storm water control as part of a larger unit of development.
3. Remodeling, repair, replacement, and improvements to any existing structure or facility and appurtenances that does not cause an increased area of impervious surface on the site in excess of ten percent (10%) of that previously existing.
4. Construction of any one new single family or duplex dwelling unit, irrespective of the site area on which the same may be situated."

Sec. 5601.5(C) Amend to read as follows:

"C. Stormwater Detention/Retention Facilities: All developments, both residential and commercial require stormwater detention."

Sec. 5602.6(A) Amend to read as follows:

"A. Watersheds Less than 25 Acres: The Rational Method may be used to calculate peak rates of runoff to elements of enclosed and open channel systems, including inlets, when the total upstream area tributary to the point of consideration is less than 25 acres. The Rational Method is defined as follows:

$$Q = K C i A, \text{ where}$$

Q = Peak rate of runoff to system in C.F.S.

C = Runoff coefficient as determined in accordance with Paragraph 5602.2

i = Rainfall intensity in inches per hour as determined in accordance with Paragraph 5602.4

K = Dimensionless coefficient to account for antecedent precipitation as follows; except the product of "C" x "K" shall not exceed 1.0.

YEARS RETURN PERIOD	"K"
10 and Less	1.0
25	1.1
50	1.2
100	1.25"

Sec. 5603.1(C) Amend to read as follows:

"C. Configuration: Curb inlets shall be as follows (illustrated by Figure 8.0):

Opening length, inside	4.0 ft. (min)
Width, perpendicular to curb line, inside	3.0 ft. (min)
Setback curb line to face	1.0 ft. (min)
Opening, clear height	6.0 in. (min)

Gutter depression at inlet	6-1/4 in. (min)
Gutter transition length	
-(a) Both sides in sump and upstream side on slopes	5.0 ft. (min)
-(b) Downstream side on slopes	3.0 ft. (min)

~~"Vertical inlet openings greater than eight inches (8") shall require access protection such that no vertical opening shall exceed eight inches (8"). Deflectors shall be placed at 45 degrees in the inlet throat on slopes of six percent (6%) or greater."~~

Sec. 5603.3 Amend to read as follows

~~"Inverts and Pipes: The crown(s) of pipe(s) entering a structure shall be at or above the crown of the pipe exiting from the structure and provide a minimum fall of the invert in the structure of 0.2 feet for straight flow through the structure or 0.5 feet fall for all other types of flow (bends more than 22.5 deflection angle, multiple lines entering, enlargement transition, ... etc.) through the structure. The desirable minimum fall across the invert is 0.5 feet.~~

~~Minimum depth of cover shall be nine inches (9").~~

~~Driveway culverts shall be sized to provide adequate capacity for the effected drainage area, but in no case shall the culvert be less than twelve inches (12") in diameter without the expressed authorization of the Director of Public Works. The culvert shall have a grade of two percent (2%) with all joints fitted per manufacturer's specifications. The minimum depth of cover, measured from the top of the culvert to the top of the driveway surfaces, will be nine inches (9"). The culvert material can be made out of reinforced concrete pipe, corrugated steel pipe, or smooth interior corrugated polyethylene pipe at the choice of the property owner and approval of said Director. When the streets are resurfaced and driveway culverts need to be laid, the property owner will, at the request of the Director of Public Works, or an agent, furnish the required diameter of culvert.~~

~~All driveway and crossroad pipe shall be laid and relaid pursuant to the terms of this Article under the direction, supervision, and authority of the office of the Director of Public Works.~~

~~When culverts are placed under roadways on improved streets as defined in the Public Works Manual, they shall extend to at least the limits of right-of-way and proper hydraulic structures should be provided for dissipation of velocity to prevent erosion."~~

Sec. 5604.2 Amend to read as follows:

~~"Capacity: Capacity shall be based on either inlet or outlet control, whichever condition indicates the least capacity. Minimum design pipe size shall be twelve inches (12") diameter. The minimum pipe size under a public street shall be fifteen inches (15") diameter."~~

Sec. 5605.1 Amend to read as follows:

~~"Easements: Permanent easements shall be dedicated to the City for operation and maintenance of open channels.~~

~~Open natural waterways are preferred and should be kept natural as much as possible. Open channels, natural or improved, shall be placed to the rear or side of properties where the design provides adequate protection for the residence or structure by having a set back of fifty feet (50') from the top of the bank of an open channel (or improved) on mapped FEMA Flooding (or more stringent regulations may apply). Open channels or natural waterways will be part of the common open space of the subdivision. The fifty foot (50') setback shall be shown on all plans as required by Section 5607.4. Open channels, except for natural waterways, are acceptable only when required pipe size is larger than seventy two inches (72"). This provision shall not lessen the requirements of any other section of the City Code. The Public Works Director is to review proposed storm sewer piping systems for conflicts with the~~

preservation and sensitive land plans. The resolution of any conflicting regulations is to be reported to the Planning Commission if their approval is required on development project.

- A. Improved Open Channels: Easements shall be as wide as the top of bank width, plus ten feet (10') on each side. Easements shall be continuous between street right-of-way. When an improved channel begins or ends at a point other than the right of way of a dedicated street, a fifteen-foot (15') or wider easement graded so as to permit access by truck shall be dedicated from the end of the channel to a street right-of-way.
- B. Natural Channels: Natural open channel easements shall be the area between the lines of intersection of the natural ground with a plane twelve inches (12") above the design water surface, plus ten feet (10') measured horizontally on each side thereof; however the width of the easement shall not be less than thirty feet (30') and the width shall be increased if necessary to permit access by truck along the entire length of the channel."

See. 5606.1 Amend to read as follows:

"Scope: This section governs the requirements and design of stormwater detention and retention facilities.

- 1. Detention basin outlets shall be connected to a downstream open channel or storm sewer where the connection distance is two hundred feet (200') or less.
- 2. Residential subdivision detention basins shall be located on an easement on subdivision common area and remain in ownership and maintained by the homeowners association. Access easements to the basin are to be provided.
- 3. A concrete or rip-rap detention basin low flow channel is to be built where the basin slope is one percent (1%) or less.
- 4. Commercial subdivision detention basins shall not be altered and are to be maintained as designed by the commercial subdivision."

See. 20.02.003. Penalty.

Any person who shall violate, fail, neglect, or refuse to comply with any provision or requirement of this article or of any regulation or requirement made pursuant to it shall be guilty of a misdemeanor, and upon conviction shall be fined not less than \$10.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense.

Sees. 20.02.004—20.02.999. Reserved.

ARTICLE 3. STORM SEWER SPECIFICATIONS.

See. 20.03.001. Adoption of APWA Storm Sewer Specifications Construction and Material.

The Construction and Material Specifications for Storm Sewers, titled Section 2600, approved and adopted on December 15, 1982, by the Kansas City Metropolitan Chapter of the APWA, is hereby adopted as the Storm Sewer Specifications Code as a part of the Public Works Manual within the City Code of the City of Independence, Missouri, with the additions, insertions, deletions, and changes, if any, prescribed in the following sections of this article:

See. 20.03.002. Additions, insertions, deletions, and changes.

The following numbered subsections and provisions of the approved edition of the APWA Standard Specifications and Design Criteria, Section 2600 Storm Sewers, adopted by Section 20.03.001, are hereby amended to read as follows:

Sec. 2601.2 Delete.

Sec. 2602.2(G) Add to read as follows:

"G. Smooth Interior Corrugated Polyethylene Pipe.

1. ~~Smooth interior corrugated polyethylene pipe shall conform to the requirements of AASHTO M 294. This pipe shall not be used under public streets.~~
2. ~~Joints shall be made with split couplings corrugated to match the pipe corrugations. A neoprene gasket shall be utilized with the coupling to provide a soil tight joint.~~
3. ~~A manufacturer's certification that the product was manufactured, tested and supplied in accordance with these specifications shall be furnished to the City."~~

Sec. 2602.3(B) Amend to read as follows:

"B. Laying and Jointing:

1. ~~Handling and Protection: All pipe shall be protected during installation against shock and free fall, and be installed without cracking, chipping, breaking, bending, or damage to coating materials. Damaged pipe materials shall be replaced with new materials, except as repair may be permitted by the Engineer.~~
2. ~~Grade Control: Maximum deviation from plan line or grade of any pipe after installation and backfilling shall not be greater than 0.1 foot. All pipe shall have a continuous slope free from depressions that will not drain. The Contractor shall establish such grade control devices as are necessary to maintain the above tolerances.~~
3. ~~Laying: The laying of pipe in finished trenches shall be commenced at the lowest point and installed with the bell end forward or upgrade. All pipe shall be laid with ends abutting and true to line and grade. They shall be carefully centered so that when laid they will form a sewer with a uniform invert.~~
4. ~~Bedding: The class of bedding required shall be as indicated on the plans or standard details. Bedding shall be rodded, spaded, and compacted as necessary to provide firm uniform support for the pipe; and not subject it to settlement or displacement.~~

~~Pipeline anchors shall be installed at no greater than a thirty-six feet (36') maximum spacing on all pipelines installed at greater than a twenty percent (20%) grade. The pipe line anchors shall be non-reinforced concrete with a four feet (4') minimum width. The anchor length shall be the trench width, with a minimum length of two feet (2'). The concrete thickness below and above the pipeline shall be as follows:~~

Pipe Size	Thickness
8"	7"
10"	11"
12"	15"
Above 12"	24"

5. ~~Jointing: Preparatory to making pipe joints, all surfaces of the portions of the pipe to be jointed shall be clean and dry. Lubricants, primers, adhesives, etc., that are used shall be compatible with the jointing material recommended or specified. All bell and spigot ends of concrete pipe shall be primed prior to application of a trowelable bitumastic plastic compound.~~

~~No pipes may be trimmed unless by order of the Engineer. Pipes having defects that do not cause their rejection shall be so laid as to place these defects where they will be of least consequence.~~

~~Trenches shall be kept water free and as dry as possible during bedding, laying and jointing, and for as long a period as required to protect the pipe joints and concrete in structures.~~

As soon as possible after the joint is made, sufficient material shall be placed alongside each side of the pipe to offset conditions that might tend to move the pipe off line and guide.

- a. **Concrete Pipe:** (1) Plastic joint sealant shall be applied to the tongue or spigot prior to its insertion into the bell or groove. A sufficient amount of sealant shall be used to fill the annular joint space with some squeeze out. Wipe the outside surface of the joint with additional material to assure a complete seal. (2) **Mortar:** When cement mortar is used the joint surface shall be clean and soaked with water immediately before the joint is made. A layer of mortar shall be placed in the lower portion of the bell or groove of the installed pipe and on the upper portion of the tongue or spigot of the pipe section to be installed. The tongue or spigot shall then be inserted into the bell or groove of the installed pipe until the mortar is squeezed out on both the interior and exterior surfaces. The annular joint space shall be completely filled and the abutting joint sections flush and even, with excess mortar struck off. (3) **Flexible Gaskets:** Flat gaskets may be cemented to the pipe tongue or spigot. O ring gaskets shall be recessed in a groove on the pipe tongue or spigot and confined by the bell or groove after the joint is completed. Roll on gaskets shall be placed around the tongue or spigot and rolled into position as the joint is assembled. Flat gaskets and O ring gaskets shall be lubricated as recommended by the manufacturer.
- b. **Corrugated Steel Pipe:** Corrugated steel pipes shall be joined with a band type of coupling. The band shall be drawn and secured on the pipe by connecting devices as furnished by the manufacturer. Pipe ends may be identical to the rest of the pipe barrel (plain ends), or in the case of helical pipe, the pipe ends at the joint may be reformed to an annular corrugation or flange (reformed end). Gaskets, if required, shall be furnished in accordance with the plans and Special Provisions.
- e. **Connection to Structures:** Pipe connecting to structures shall be cut parallel with the inside face of the structure for structures having plane walls and parallel with the spring line of the pipe for structures having curved walls. Projection of the pipe beyond the inside face shall not exceed 1 inch (25 mm) (measured at the springline for structures having curved walls.)¹¹

Sec. 2602.3(C) Amend to read as follows:

- ¹¹C. **Backfill:** All trenches and excavations shall be backfilled with suitable material placed and compacted in conformance with Section 2102.6 entitled "Embankment."
- 1. **All Pipe:** Granular bedding material shall be placed to the springline of the pipe, and may, at the Contractor's option, be placed to a point six inches (6") above the top of the pipe. Material shall be placed in 6 inch (maximum) lifts; and compacted by rodding, spading, or vibratory compaction as necessary to provide uniform contact with the pipe and trench to prevent settlement or displacement. Select soil backfill may be used in lieu of granular bedding material above the springline of the pipe. The select material shall be placed in 6 inch (maximum) lifts and shall be compacted to not less than 95% of maximum density at optimum moisture \pm 2.0% as determined by ASTM D698 or within the tolerance of the moisture range for the type of material being used as determined by the Engineer.
- 2. **Backfilling under areas to be paved and existing pavement from the top of the pipe embedment as shown on the approved standard drawings to a point at grade,** backfill material shall be untreated aggregate meeting the requirements of Chapter 20 Article 6 and compacted to 95% maximum density as determined by ASTM 698.
- 3. **Other Backfill:** From a point six inches (6") above the top of the pipe to a point at grade, backfill material shall be placed in such a manner so as to obtain 90% of maximum density at optimum moisture \pm 2.0% or within the tolerance of the moisture range for the type of material being used as determined by the Engineer. Lift thickness shall be within the capability of the compaction equipment used, but not greater than twenty four inches (24").

4. ~~Backfilling around a structure must be done in a manner that will maintain the integrity of the structure.~~
 - a. ~~No backfill shall be placed over or around any structure until the concrete or mortar has attained a minimum strength of 2,000 psi and can sufficiently support the loads imposed by the backfill without damage.~~
 - b. ~~The Contractor shall use utmost care to avoid any wedging action between the side of the excavation and the structure that would cause any movement of the structure. Any damage caused by premature or unbalanced backfill or by the use of equipment on or near a structure will be the responsibility of the Contractor.~~
 - c. ~~No excavated rock larger than four inches (4") maximum dimension shall be placed within one foot (1') of the exterior surface of any structure."~~

~~Sec. 2603.3(C) Amend to read as follows:~~

- ~~1. Pipe shall be placed inside the casing to the plan line and grade by the use of wood skids or other equivalent methods. The wood shall be pressure treated with creosote, pentachlorophenol, or salt-type preservative in accordance with AWWA C2. Cut surfaces shall be given two (2) heavy brush coats of the same preservative. The wood skids shall be securely fastened to the sewer pipe with stainless steel straps.~~
- ~~2. End seals shall be constructed after the sewer pipe is installed and approved. A two inch (2") diameter weephole shall be installed in the downstream end.~~
- ~~3. If specified, the annular space between the casing and sewer pipe shall be filled with sand blown in, so that all space is filled without disturbing the alignment and grade of the sewer pipe."~~

~~Sec. 2604.2(B) Amend to read as follows:~~

~~"Concrete Materials: Concrete, whether reinforced or non-reinforced, shall conform to MCIB Specifications and to the requirements therein for the MCIB Mix Number specified. Concrete shall be mixed and transported in accordance with Section 501 of the latest edition of the Missouri Standard Specifications for Highway Construction."~~

~~Sec. 2604.2(L) Add to read as follows:~~

~~"Reinforced Concrete Box Culverts: The work covered by this section of the specifications covers the installation of concrete work complete in strict accordance with this section of the Specifications and the Standard Specifications for State Road and Bridge Construction, State Highway Commission of Missouri or Kansas and the applicable drawings. All concrete shall conform to Section 2604.2 of these specifications entitled 'Material'."~~

~~Sec. 2606.1(1) Amend to read as follows:~~

~~"I. Riprap: By the square yard by actual field measurement of authorized placement."~~

~~Sec. 20.03.003. Penalty.~~

~~Any person who shall violate, fail, neglect, or refuse to comply with any provision or requirement of this article or of any regulation or requirement made pursuant to it shall be guilty of a misdemeanor, and upon conviction shall be fined not less than \$10.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense.~~

~~Secs. 20.03.004 — 20.03.999. Reserved.~~

ARTICLE 4. STANDARD-DETAIL-SHEETS

~~Sec. 20.04.001. General.~~

~~The following Standard Detail Sheets establish uniform design and construction plan details for public works facilities. These details are not intended to cover extraordinary situations, and in such instances, deviations from the detail may be allowed where justified, upon the approval of the City Engineer. Where the term "shall" is used, it is intended to mean a mandatory requirement insofar as any confirmation by the City Engineer.~~

Sec. 20.04.002. Standard sheets.

The following Standard Detail Sheets, as dated and identified, are hereby approved, with a standard sized copy of each being on file with the City Clerk:

1. Standard Detail Sheet 'A', "Curbs and Sidewalks", dated June 19, 1989.
2. Standard Detail Sheet 'B', "Sanitary Sewers", dated November 26, 2003.
3. Standard Detail Sheet 'C', "Storm Sewer Structures", date June 19, 1989.
4. Standard Detail Sheet 'D', "Utility Adjustments", dated June 19, 1989.
5. Standard Detail Sheet 'E', "Typical Street Section", dated June 19, 1989.
6. Standard Detail Sheet 'F', "Concrete Pavement", dated June 19, 1989.
7. Standard Detail Sheet 'G', "Storm Sewers", dated June 19, 1989.
8. Standard Detail Sheet 'H', "Rural Streets", dated November 26, 2003.

Sec. 20.04.003. Penalty.

Any person who shall violate, fail, neglect, or refuse to comply with any provision or requirement of this article or of any regulation or requirement made pursuant to it shall be guilty of a misdemeanor, and upon conviction shall be fined not less than \$10.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense.

Secs. 20.04.004 — 20.04.999. Reserved.

ARTICLE 5. EXCAVATION, GRADING AND SITE PREPARATION SPECIFICATIONS

Sec. 20.05.001. Adoption of APWA Grading and Site Preparation Specifications.

The Construction and Material Specifications, titled Section 2100, approved and adopted on October 21, 1981, by the Kansas City Metropolitan Chapter of the APWA is hereby adopted as Article 5 of the Public Works Manual, within the City Code of the City of Independence, Missouri, with the additions, insertions, deletions, and changes, if any, prescribed in the following sections of this article.

Sec. 20.05.002. Additions, insertions, deletions, and changes.

The following numbered subsections and provisions of the approved edition of the APWA Construction and Material Specifications adopted by Section 21.05.001, are hereby amended to read as follows:

Sec. 2101.2(C). Amend to read as follows:

"C. Demolition and Removal: This work shall consist of demolishing, removing and disposing of all structures and improvements within the construction limits unless included in other items of work as shown on the plans or in the Special Provisions. This work shall apply to all structures and improvements, whether on, above or below the surface of the ground or subgrade.

Demolition and removal shall include but not be limited to items such as buildings, drainage structures, pipes, pavements, fences, retaining walls, guard rails and signs.

Removal or relocation of items such as fences and guardrail shall be in accordance with the plans and/or Special Provisions.

Relocation of signs, fences, guardrails, etc. shall be considered incidental to removal work except where such relocation is listed separately in the Itemized Proposal of the Special Provisions.

All pipes which are to be abandoned shall be removed unless otherwise shown on the plans or approved by the Engineer."

Sec. 2101.3. Amend by adding:

"H. Mailboxes: Where conflicting with the necessary operations of the construction, mailboxes shall be temporarily reset in a location accessible to both the mail carrier and the patron. The contractor shall properly reset mailboxes at designated locations prior to final acceptance of the work. Damaged mailboxes shall be replaced by the Contractor.

I. Structure Demolition: The Contractor shall be required to remove any foundations or slabs found to exist that conflict with the construction."

Sec. 2102.2 C. Amend by adding to the Suitable Material:

"(2-C.) Asphaltic Concrete and Concrete Materials: Demolition materials, Asphaltic Concrete, Concrete, or Rock may be placed in embankments outside pavement structure or structure area if reduced in size to a maximum of 24" dimension."

Sec. 2102.3. Replace the two paragraphs with the following five paragraphs:

"In general, the moving of utility facilities, which conflicts with the improvements, will be done by the respective controlling utility at its own expense and at no cost to the Contractor. The Contractor shall notify the owners of each utility identified on the plans, prior to the start of any construction. The work by these utilities may be completed before the Contractor progresses to the points affected. Under some circumstances, however, the work of the utilities may have to be performed during the Contractor's construction. It shall be the responsibility of the Contractor to coordinate the work with that of the utility so as to cause the least possible delay in the work. No utility facilities, public or private, shall be moved to accommodate the Contractor's equipment or method of operation when such facility does not interfere with the improvement under construction, or, to be constructed, unless the Contractor has agreed to pay for all costs of such removal and replacement and the utility has granted permission.

Plans show utility information supplied by the various utilities. The location, depth and size of each facility shown on the plans is approximate only and is not guaranteed. The failure to show such facilities on the plans shall not relieve the Contractor of any responsibility for the protection and preservation of such utilities.

The Contractor shall be responsible for taking proper measures to support, sustain and protect existing pipes, conduits, poles, wires and other apparatus under, over, along, across or otherwise affected by the work. If such pipes, conduits, poles, wires or apparatus are damaged through carelessness or neglectful action of the Contractor, they will be repaired by the authorities having control of same, but the cost of such repairs shall be paid by the Contractor.

The Contractor shall enlist the assistance of the affected agencies in the location of their facilities. The Contractor will not be responsible to any agency for the cost of such assistance in the location of its facilities. If any underground facility, not shown on the plans nor located by the utility agency, is damaged by the Contractor, the Contractor shall be responsible for exercising good judgment and for taking such action as is reasonable and necessary to mitigate damages.

The Contractor shall also make every reasonable effort to protect private facilities. These facilities, which include the private service lines on private property, may not be shown on the plans. When these facilities are disturbed or damaged by the work, the Contractor shall make necessary arrangements for repairs to the facilities for continuous service prior to the close of that work day."

Sec. 2102.6(E). Amend paragraph "E" to read as follows:

"E. Compacting the Embankment: Before placing any embankment, the surface of the existing ground shall be prepared as heretofore specified, moistened as required, and the top 6 inches (15.24 cm) compacted to a density of 90 percent as prescribed by the following paragraph.

All embankment shall be compacted to a density of at least 90 percent of the maximum density for the material as determined by ASTM D-698 and within a tolerance of minus 3 percent and plus 2 percent of the optimum moisture or within the tolerance of the moisture range for the type of material being used as determined by the Engineer. In addition to the above required compaction, the subgrade between lines 1 foot (30.48 cm) outside of the curbs and within the top 6 inches (15.24 cm) of the subgrade shall be compacted to a density of at least 95 percent of the maximum density for the material used as determined by ASTM D-698 and within a tolerance of minus 3

percent and plus 2 percent of optimum moisture or within the tolerance of the moisture range for the type of material being used as determined by the Engineer.

All the work involved in either adding moisture to or removing moisture from embankment materials to within the allowable limits shall be considered incidental to the completion of the grading operation."

Sec. 20.05.003. Adoption of excavation and grading specifications.

Appendix J, entitled Grading, of the 2006 International Building Code is hereby adopted as the grading requirements as part of the Public Works Manual, within the City Code of the City of Independence, Missouri, with the additions, insertions, deletions, and changes, if any, prescribed in the following sections of this article.

Sec. 20.05.004. Engineering grading.

Grading in excess of 5,000 cubic yards shall be performed in accordance with the approved grading plan prepared by a professional engineer, and shall be designated as engineered grading.

Sec. 20.05.005. Permit requirements.

The exemptions to permit requirements listed in section J103.2. Exemptions, shall have item 8. added as follows:

"8. An excavation or fill less than one foot in depth, which does not exceed 50 cubic yards on any one lot and does not obstruct a drainage course."

Sec. 20.05.006. Permit fees.

A. Fees shall be assessed in accordance with the provisions of this section or shall be set forth in the fee schedule adopted by the jurisdiction.

B. When a plan or other data are required to be submitted, a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fee shall be as set forth in the Schedule of Fees. Separate plan review fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. For excavation and fill on the same site, the fee shall be based on the volume of excavation or fill, whichever is greater.

C. A fee for each grading permit shall be paid as set forth in the Schedule of Fees. Separate permits and fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. There shall be no separate charge for standard terrace drains and similar facilities.

Sec. 20.05.007. Grading completion.

Final grades in accordance with the approved grading plan are to be finished with temporary or permanent seeding or ground cover prior to any approval of the grading or certificate of occupancy. The stockpile of material is allowed for a maximum of one year following completion of the grading and requires a letter of credit or bond guaranteeing the removal of the stockpile per the Schedule of Fees per cubic yard of material to be stored. Each year beginning January 1, 2010, the unit cost per cubic yard shall be adjusted to reflect contemporary pricing using the construction cost index.

Sec. 20.05.008. Penalty.

Any person who shall violate, fail, neglect, or refuse to comply with any provision or requirement of this article or of any regulation or requirement made pursuant to it shall be guilty of a misdemeanor, and upon conviction shall be fined not less than \$10.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense.

Secs. 20.05.009—20.05.999. Reserved.

ARTICLE 6. PAVING

Sec. 20.06.001. Adoption of APWA Paving Specifications.

The Paving Specifications, titled Section 2200 approved and adopted on October 21, 1981, by the Kansas City Metropolitan Chapter of the APWA is hereby adopted as Article 6 of the Public Works Manual, within the City

Code of the City of Independence, Missouri, with the additions, insertions, deletions, and changes, if any, prescribed in the following sections of this article.

Sec. 20.06.002. Additions, insertions, deletions, and changes.

The following numbered subsections and provisions of the approved edition of the APWA Paving Specifications adopted by Section 20.06.001, are hereby amended to read as follows:

Sec. 2201.3(B). Amend paragraph "B" to read as follows:

"B. Compacting the subgrade for pavements: The top 6 inches (15.24 cm.) of subgrade for pavements shall be compacted to 95 percent of the maximum density for the material used as determined by ASTM D 698 and within a tolerance of plus 2 percent and minus 3 percent of optimum moisture or within the tolerance of the moisture range for the type of material being used as determined by the Engineer."

Sec. 2203. Delete.

Sec. 2205.2 Amend to read as follows:

"Sec. 2205.2 Materials: No material shall be used until it has been checked or tested for compliance with specifications and approved by the Engineer. Representative samples of all materials proposed for use under these specifications shall be submitted to the Engineer by the Contractor, at the Contractor's expense, for testing and the preparation of trial mixes to determine the job mix formula. All tests necessary for determining conformance with the requirements specified herein will be performed under the supervision of the Engineer without cost to the Contractor.

Recycled materials obtained through the cold milling process, shall complement virgin materials to produce an asphaltic concrete pavement mixture that meets all applicable provisions of Section 2205 when incorporated into the mix. Reclaimed materials to be incorporated into the mix shall have representative samples submitted to the laboratory along with virgin materials for inclusion into the trial mixes in determining the job mix formula, in accordance with Section 2205.3B.

A. Asphalt: Asphalt cement used in the manufacture of asphalt paving mixtures shall be of the penetration grade 50-60, 60-70, 70-85 or 85-100 or AC Designations 2.5, 5, 10, or 20 as designated by the Engineer. Such designation will be made at the time of the job mix formula determination.

Asphaltic material, as a residue from the utilization of milled material incorporated into the mix, shall be approved by the Engineer prior to incorporation into the mix. Cut-back asphaltic concrete and road oil shall not be incorporated into the mix.

The asphalt cement shall conform to ASTM D-946. Sampling shall be in accordance with ASTM D-140.

If stripping of asphalt from the aggregate occurs in the mixing process, 1 percent of single strength anti-stripping agent shall be added to the liquid asphalt.

Asphalt materials shall be approved by the Engineer prior to use in the work. However, the Engineer may accept a certified analysis by the refinery laboratory when a copy of the certified analysis accompanies each shipment of asphalt to the project. The Engineer will reserve the right of make check tests of the asphalt received on the job, and if the system of certified analysis proves to be unsatisfactory, the Engineer may discontinue this arrangement.

The Contractor or asphalt supplier shall furnish the Engineer with data on the temperature-viscosity relationship of each asphalt to be used on the project. This data shall cover the range of temperatures and viscosities within which the asphalt may be used. On the basis of this data, the Engineer will specify the temperature at which the material shall be used.

The Contractor shall not remove asphalt material from tank cars or storage tanks until the initial outage and temperature measurements have been taken, nor shall any cars or tanks be released until the final outage has been taken by the Engineer.

Copies of all freight bills and weigh bills shall be furnished to the Engineer as the work progresses.

B. Aggregate.

- a. Coarse Aggregate: All coarse aggregate shall consist of sound, durable rock, free from cemented lumps or objectionable coatings. When tested in accordance with ASTM G-131 the maximum loss shall not exceed 40%. In general, limestone obtained from the Bethany Falls, Farley, or Argentine ledges is considered as suitable for use provided it can be quarried or mined in such a manner as to prevent the inclusion of deleterious materials such as shale, etc., from adjacent ledges. Limestone from other sources must be suitably analyzed from a physical standpoint before use. The percentage of deleterious substances shall not exceed the following values and the sum of percentages of all deleterious substances shall not exceed 8 percent.

Percent by Weight

Deleterious Rock 8.0 (ASTM C235)

Shale 1.0

Other foreign material 0.5

Additionally, the percentage of material finer than a No. 200 sieve shall not exceed 3.5 percent. When tested for soundness in accordance with ASTM C 88 using Sodium Sulphate - 5 cycles, the maximum loss shall not exceed 15 percent.

- b. Fine Aggregate: Fine aggregate shall consist of natural sand, manufactured sand, or a combination thereof. The amount of deleterious substances in fine aggregate shall not exceed the following limits:

Percent by Weight

Clay lumps and shall 1.0

Total lightweight particles including coal and lignite 0.5

Other deleterious substances 0.1

- c. Recycled Aggregate: Aggregate, as a product from milled material, shall be approved by the Engineer prior to incorporation into the mix. Representative gradation determination of recovered aggregates shall be made in accordance with 2205.3C, Sampling and Testing of the Mixture.
- d. Sampling: Sampling shall be in accordance with ASTM D-75. Gradation analysis shall be in accordance with Standard Method of Test for Material Finer than No. 200 (75 mm). Sieve in Mineral Aggregates by Washing, ASTM C-117 and Standard Method Test for Sieve Analysis of Fine and Coarse Aggregate, ASTM C-136"

Sec. 2205.3(A). Insert the following at the end of paragraph "A" and before paragraph "B".

~~"Hot Recycled Asphaltic Concrete Mixtures shall be proportioned in accordance with the types specified. Asphalt Cement percentages shall be maintained through the complement of virgin and reclaimed materials. The maximum permissible variation from the job mix formula as specified herein shall be the combined virgin and reclaimed bituminous as determined as noted in Section 2205.3C.~~

~~Proportionary limits of reclaimed materials shall be as follows: (by mix wt.)~~

~~Asphaltic Concrete Base Type I - 15 - 50%~~

~~Asphaltic Concrete Surface Types II, III & IV - 15 - 30%~~

The actual percentage of reclaimed material shall be shown on the job mix formula. Variations shall be approved by the Engineer.

The method of including reclaimed material into the mixer shall be approved prior to usage. The reclaimed material shall be fed as a separate unit with individual controls integrated with a total master control."

Sec. 2205.4(A)H. Delete

Sec. 2205.4(D). Amend to read as follows:

"D. Special Requirements for Drum Dryer Mixing: Asphaltic concrete mixtures may be manufactured by the process of incorporating asphalt cement with aggregate as the material passes through the dryer. The drum dryer mixer shall meet all the requirements of Section 404.5 Requirements for Dryer Drum Mixers of the latest edition of the Missouri Standard Specifications for Highway Construction. The drum dryer mixing operations will be approved by the Engineer prior to the manufacture of asphaltic concrete mixes. The material so produced shall comply with the specifications and job mix formula criteria."

Sec. 2205.8(C). To specify the thickness for paving the first paragraph shall read as follows:

"C. Spreading and Finishing: The spreading and finishing of each course shall be to the thickness and width indicated on the plans or Special Provisions. The thickness of individual layers shall not exceed the following for the respective type of mixture unless previously approved by the Engineer.

Type 1	Asphalt Concrete Base	8" (20.32 cm)
Type 2	Asphalt Concrete Surface	3" (7.62 cm)
Type 3	Asphalt Concrete Surface	3" (7.62 cm)
Type 4	Asphalt Concrete Surface	1" (2.54 cm)"

Sec. 2206.4(B)(2). Amend to read as follows:

2. Aggregate for Slurry Seal: The mineral aggregate used for this work shall be chat aggregate which is a by-product of the milling of lead and zinc ores and shall conform to one of the following gradations as specified by the Engineer:

Percent Passing		
Sieve Size	Type 1	Type 2
3/8" (9.5 mm)	100	100
No. 4 (4.75 mm)	98—100	82—94
No. 8 (2.32 mm)	75—90	45—65
No. 16 (1.18 mm)	50—75	25—46
No. 30 (600 um)	30—50	15—35
No. 50 (300 um)	18—35	10—25
No. 200 (75 um)*	5—15	5—15

~~*The percent passing the No. 200 (75um) sieve shall be determined in accordance with ASTM C-117.*~~

~~Sec. 2208.2(A). Amend to read as follows:~~

~~"A. Concrete Control and Quality: The current editions of the "Bulletins" and Approved Sections of the "Standard Concrete Specifications" issued by the Mid-West Concrete Industry Board, Inc. (MCIB) are made a part hereof by reference. However, when the provisions of this Specification differ from the provisions of such "Bulletins" and "Sections" the provisions of this Specification shall govern. Concrete shall be mixed and transported in accordance with Section 501 of the latest edition of the Missouri Standard Specifications for Highway Construction."~~

~~Sec. 2208.2(F). Amend to read as follows:~~

~~"F. Curing Membrane: All material to be used or employed in curing Portland Cement Concrete must comply with the Mid-West Concrete Industry Board, Inc. (MCIB), Section 9."~~

~~Sec. 2209.2(A). Amend to read as follows:~~

~~"A. Concrete Mix: Concrete shall conform to the requirements of MCIB Mix No. A558-1-2 or A618-1-4. Mix No. WA610-1-4 may be substituted for Mix No. A618-1-4."~~

~~Sec. 2209.5(A). Amend to read as follows:~~

~~"A. Concrete Placement: Concrete shall be mechanically vibrated except for Mix No. A618-1-4 or Mix No. WA610-1-4 and shall not be allowed to extrude below the forms to cause an irregular alignment of the abutting street pavement."~~

~~Sec. 2209.7. Amend to read as follows:~~

~~"Sec. 2209.7. Joint Sealing and Cleanup. An approved joint sealer shall be applied in accordance with the manufacturer's directions within 7 days of the placement of the concrete.~~

~~The Contractor shall be responsible for the removal of excess dirt, rock, broken concrete, concrete splatters and overspray from the area of the construction."~~

~~Sec. 20.06.003. Penalty.~~

~~Any person who shall violate, fail, neglect, or refuse to comply with any provision or requirement of this article or of any regulation or requirement made pursuant to it shall be guilty of a misdemeanor, and upon conviction shall be fined not less than \$10.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense.~~

~~Secs. 20.06.004 — 20.06.999. Reserved.~~

ARTICLE 7. STREET DESIGN CRITERIA

~~Sec. 20.07.001. Definitions.~~

~~For the purposes of this article the following terms, phrases, words and their derivations shall have the meaning given herein. When not inconsistent with the context, words used in the present tense include the future, words used in the plural include the singular, and words used in the singular include the plural.~~

~~The word "shall" as used herein is not merely directory but is considered mandatory.~~

~~Unless otherwise specified, the following terms are defined:~~

~~ALLEY is a minor, permanent, public service way that is used primarily for vehicular service access to the back or the side of properties otherwise abutting on public streets.~~

~~ARTERIAL STREET means a street, identified as an arterial street on the Independence Thoroughfare Plan, intended to move through traffic to and from the major traffic generators and to serve as a route for traffic between communities or large areas.~~

~~COLLECTOR STREET means a street, identified as a collector street on the Independence Thoroughfare Plan, intended to move traffic from local streets to arterial streets.~~

~~CUL-DE-SAC is a local street with only one outlet and having an appropriate terminal for the safe and convenient reversal of traffic movement.~~

~~DECEASABLE TURNAROUND is a temporary cul-de-sac for use until such time as the street that it terminates is extended.~~

~~GRADE means the slope of a road, street or other public way, specified in percent.~~

~~LOCAL STREET means a street intended to provide access to other roads from individual properties.~~

~~PRIVATE STREET means a private vehicular access that is over 100 feet in length connecting a public street to multiple ownership or more than one unit and constructed to City Code for the street classification.~~

~~PUBLIC STREET means a public right-of-way that affords principal means of vehicular access to property abutting thereon.~~

~~RIGHT-OF-WAY is land opened, reserved or dedicated for a street, walk, drainage way or other public purposes.~~

~~SUBDIVISION PLAT means the final map or drawing, described in these regulations, on which the subdivider's plan of subdivision is presented for approval and which, if approved, is to be submitted to the Jackson County Division of Property Records.~~

Sec. 20.07.002. General requirements.

A. ~~The arrangement of streets shall conform with the Thoroughfare Plan. Streets shall connect with streets already dedicated and shall provide for future extensions. Streets proposed for future extension shall be terminated with deccasable turnarounds where the distance from an intersecting street line is greater than 200 feet. Deccasable turnaround shall have a deccasable right-of-way diameter of not less than 100 feet, and a pavement diameter of 80 feet.~~

B. Culs-de-sac shall be designed as follows:

Option	Minimum Right-of-way	Minimum Pavement Width	Required Landscape Area	Required Clear Zone	Maximum Length
A	100'	30'	20'	10'	500'
B	110'	30'	30'	0'	500'
C	160'	30'	80'	0'	1320'

~~Required landscape areas are to be constructed with lazy back curbs.~~

~~Clear zones are to be indicated on a subdivision plat and extend ten feet back from the curb to a height of 12 feet. Clear zones will be free of all obstructions including mailing boxes, light poles and landscaping.~~

~~Option C requires a loop street design. The landscape area will be the shape of a tear drop having a length of at least 150 feet.~~

~~No cul-de-sac street shall end less than 200 feet from a crest unless the vertical curve is such that safe sight distance can be maintained.~~

C. ~~Centerline off-sets of intersection streets shall be at least 150 feet apart.~~

D. ~~Streets shall be laid out so as to intersect as nearly as possible at right angles and shall not intersect at less than 75 degrees.~~

E. ~~The right-of-way widths for interior streets and alleys included in any subdivision shall not be less than the minimum dimensions for each classification as follows:~~

Type	Right-of-Way
------	--------------

Urban Highways	State Highway Standards
Divided Arterial Streets	100'
Major Arterial Streets	80'
Minor Arterial Streets	60'
Collector Streets	60'
Local Street	50'
Alleys	20'

F. The horizontal alignment on all streets where the centerline deflects two degrees or more shall be as follows:

Radii of Horizontal Curves	
Urban Highway	State Highway Standards
Arterial Streets	700' minimum
Collector Streets	400' minimum
Local Streets	175' minimum

A tangent of at least 200 feet must be introduced between curves on arterial and collector streets.

G. All changes in grade over an algebraic change of two percent shall be connected by a vertical curve. No street grade shall be less than one percent and shall not exceed the following:

Maximum Street Grades	
Arterial Streets	6%
Collector Streets	8%
Local Streets	10%

Design for Crest Vertical Curves			
The design for crest vertical curves shall be based on stopping sight distance as follows:			
Design Speed, mph	Minimum Stopping Sight Distance, Feet	K = Rate of Vertical Curvature, Length in Feet per Percent of A	
		Calculated	Rounded
30	200	28.6	28
40	275	54.0	55
50	350	87.5	85
60	475	161.2	160
65	550	216.1	215

70	600	257.1	255
75	675	25.9	325
80	750	402.3	400

Design for Sag Vertical Curves The design for sag vertical curves shall be as follows:			
Design Speed, mph	Minimum Stopping Sight Distance, Feet	K = Rate of Vertical Curvature, Length in Feet per Percent of A	
		Calculated	Rounded
30	200	36.4	35
40	275	55.5	55
50	350	75.4	75
60	475	109.4	105
65	550	130.0	130
70	600	144.0	145
75	675	164.9	160
80	750	186.0	185

H. Design Speeds shall be as follows:

Local or Rural Street	30 mph
Collector	40 mph
Arterial	50 mph

Street right-of-way intersections shall be rounded to a radius of not less than 25 feet.

- I. Raised medians, when specified, shall not encroach into any intersection beyond the beginning of the curb radius. The minimum street width of one-way traffic adjacent to a median shall be 18 feet back of curb to back of curb. Medians shall be a part of the City right-of-way and shall be paved. The maximum radius of a median in a cul-de-sac shall be 12 feet to the back of curb section.
- J. Public Streets and Alleys shall be constructed in accordance with the approved standard drawings. Materials shall meet applicable provisions of Chapter 20, Article 6. Private streets shall be designed and constructed meeting Public Street Standards. Curb locations on private streets may vary to accommodate parking. Asphalt pavement base thickness for local streets shall be increased from six inches to eight inches on main subdivision entrance streets. Main subdivision entrance streets are designated at the time of preliminary plat review. They are to be designated on developments in excess of 100 dwelling units and are to include all streets that are principle access for 50 or more dwelling units.

- K. Streets shall be centered in the right of way, unless approved by the City Engineer.
- L. Permanent traffic control devices shall be considered as part of the design of public streets in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). An engineering traffic study shall be submitted for any intersection where signalization or a multiway stop is to be considered. Traffic control devices shall be shown on a plan drawing for review and approval by the City Engineer. It shall be the responsibility of the City Engineer to enter regulatory traffic control into the City Code.

Sec. 20.07.003. Required improvements.

- A. Sidewalks, which shall be required within the right of way on both sides of all collector and arterial streets and on one side of all local streets, shall be a minimum of four feet in width and shall be located as shown on the approved standard drawing. Handicap ramps will be installed at all curb intersections. Handicap ramps shall be constructed of six inch thick concrete as shown on the approved standard drawing.

Sidewalks shall not be required to encircle cul-de-sac turnarounds, but shall continue to its intersection with the cul-de-sac curb line, as shown on the approved standard drawing. Sidewalk requirements on a cul-de-sac may be waived by the City Engineer if there is a minimal required length on one lot.

Sidewalks shall be constructed of concrete unless approved by the City Engineer, and shall meet the requirements of Chapter 20, Article 6 (see Sec. 2209.2(A)).

Curbs will be required on all streets, and shall be constructed in accordance with the approved standard drawings. All materials shall conform to applicable provisions of Chapter 20, Article 6.

Prior to the approval of a nonresidential Survey Development, all adjacent facilities must meet the current minimum standards of the Public Works Manual and utility provision guidelines for placement of utilities and street lighting.

Sec. 20.07.004. Plan requirements.

This section governs the preparation of plans for Street Improvements and includes the requirements for the scale to be used and other necessary information.

- 1. The plans shall include all information necessary to build and check the design of Street Improvement systems. The plans shall be arranged as required by the City Engineer. Standard details of the City may be included by reference. Plans shall be sealed by a Registered Professional Engineer and shall be submitted to the City Engineer for review and approval.
- 2. Plans shall be drawn at the following minimum scales. Larger scales may be needed to clearly present the design. Bar scales shall be shown on each sheet for each scale.

Plan:	1 inch = 50 feet
Horizontal Profile:	1 inch = 50 feet
Vertical Profile:	1 inch = 10 feet
Structural Plans:	1/4 inch = 1 foot
Graphic Drawings:	Varies

- 3. The following information will be required:
 - a. Plan View: All designed Street Improvements shall be drawn in plan view and shall contain the following:
 - (1) North arrow and bar scale.
 - (2) Identification and location of curbs, sidewalks, pavement, and ties to permanent reference points for each system located outside the street right of way.
 - (3) Identification and location of storm sewers, sanitary sewers, pipes and structures.

- (4) Property lot and easement lines shall be shown, labeled, and dimensioned.
 - (5) Existing man-made and natural topographic features, such as buildings, fences, trees, channels, ponds, streams, etc., and all existing and proposed utilities.
 - (6) Location of test borings, if available.
 - (7) Existing and finish grade contours at intervals of 2.0 feet or less in elevation; or equivalent detail indicating existing and finish grades and slopes.
 - (8) A uniform set of symbols subject to approval by the City Engineer.
 - (9) The centerline of pavement.
 - (10) Benchmarks.
 - (11) Show horizontal curve data for proposed pavement.
- b. Profile View: All designed Street Improvements shall be drawn in profile view and shall contain the following:
- (1) Existing and finish surface grade shall be shown along the center line of the street. Widening plans shall show pavement edge grade.
 - (2) Slope shall be expressed in percent. Elevations shall be shown at 50 foot intervals for proposed pavement.
 - (3) Show vertical curve data, including curve lengths and stopping sight distance. Show low point stations and elevations.
 - (4) Each existing utility line crossing the alignment shall be properly located and identified as to type, size and material, if available.
 - (5) Test borings, if available.
 - (6) The profile shall show existing grade above the centerline as a dashed line, proposed finish grades or established street grades by solid lines. Each line shall be identified.
 - (7) Sewer elevation, if applicable.
- e. Typical Sections(s): All Street Improvements design shall include typical section(s) and shall contain the following:
- (1) Right of way width.
 - (2) Pavement widths.
 - (3) Cross slopes.
 - (4) Sidewalk locations.
 - (5) Pavement depths and types of materials.
 - (6) Curb location and type.
 - (7) Subgrade compaction.
 - (8) Location if more than one section is required.

Sec. 20.07.005 Parkway regulations.

A Parkway shall be defined as a thoroughfare street or any part thereof with at least two travel lanes in each direction generally separated by green open space as a median and characterized by features such as a wide median, sidewalks, bicycle paths, landscaping, and access restrictions. A parkway will function as an arterial street to transport traffic and shall have limited drive and intersection connections. The designation as a parkway shall only be granted by the City. A thoroughfare street designated as a parkway shall be subject to the following regulations:

- A. There shall be no above ground utilities within 500 feet of a Parkway right of way, except for perpendicular crossing of high-voltage transmission lines when necessary.

- B. ~~Parking areas adjacent to a Parkway right-of-way shall be set back at least 50 feet from the edge of the Parkway right-of-way, shall be screened by buildings, plant materials and natural shaped berms, and shall utilize plantings to break up large areas of pavement.~~
- C. ~~The following shall not be located within 100 feet of a Parkway right-of-way:~~
 - 1. ~~Trash dumpsters;~~
 - 2. ~~Fences or walls, except those which are determined to be architecturally and aesthetically compatible with the parkway design; and~~
 - 3. ~~Drive-through lanes for fast-food businesses.~~
- D. ~~The following shall not be located within 250 Feet of a Parkway right-of-way:~~
 - 1. ~~Billboards and free-standing signs, except for ground or monument signs as defined in the Southeast Independence Overlay Zoning District;~~
 - 2. ~~Outdoor storage;~~
 - 3. ~~Trash dumpsters other than those enclosed in masonry structures;~~
 - 4. ~~Unscreened loading docks and loading areas, unless located on the side of a building opposite the parkway;~~
 - 5. ~~Buildings not having the similar architectural treatment on all four sides;~~
 - 6. ~~Businesses that are classified as:~~
 - a. ~~Self or mini-storage;~~
 - b. ~~New or used car dealerships;~~
 - c. ~~Vehicle repair;~~
 - d. ~~Service (gasoline) stations;~~
 - e. ~~Convenience stores;~~
 - f. ~~Pawn shops and short term loan service businesses;~~
 - g. ~~Businesses holding licenses as retailer of intoxicating liquor, non-intoxicating beer, malt liquor or light wine in the original package or by the drink;~~
 - h. ~~Adult businesses; or,~~
 - i. ~~Gambling establishments, including those licensed by the State of Missouri.~~

Sec. 20.07.006. Penalty.

Any person who shall violate, fail, neglect, or refuse to comply with any provision or requirement of this article or of any regulation or requirement made pursuant to it shall be guilty of a misdemeanor, and upon conviction shall be fined not less than \$10.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense.

~~Sees. 20.07.007—20.07.999. Reserved.~~

ARTICLE 8. SANITARY SEWER CONSTRUCTION AND MATERIAL SPECIFICATIONS

Sec. 20.08.001. Scope.

This division governs all work, materials and testing required for installation of gravity and pressure pipelines of the respective types and sizes shown on the plans for the particular location and conforming to the requirements of these specifications. All pipelines shall be constructed to proper line and grade as shown on the plans and shall result in an unobstructed, smooth and uniform conduit.

Sec. 20.08.002. General.

- A. Sanitary sewer construction shall consist of furnishing all labor, materials and equipment for the complete installation of sewers and appurtenances in accordance with the approved drawings, and this chapter of the City Code.
- B. It is understood that throughout this section these specifications may be modified by appropriate items in the special provisions or notes on the approved drawings.
- C. When reference is made to a Standard Specifications i.e. ASTM, ANSI, AWWA, MCIB, the specification referred to shall be understood to mean the latest revision of said specification as amended at the time of the notice to bidders, except as noted on the plans or in the special provisions.

Sec. 20.08.003. Materials.

- A. This section governs materials that may be required to complete pipeline construction, exclusive of structures, as shown on the plans and/or as provided for in the special provisions.
 - 1. Furnish pipe of materials, joint types, sizes, and strength classes indicated and specified. Higher strengths may be furnished at the Contractor's option at no additional cost to the Owner.
 - 2. The manufacturer shall be experienced in the design, manufacture and commercial supplying of the specific material.
 - 3. Inspection and testing shall be performed by the manufacturer's quality control personnel in conformance with applicable standards. Testing may be witnessed by Owner, Engineer, or approved independent testing laboratory. The Contractor shall provide three copies of certified test reports indicating that material does conform to the specifications.
 - 4. The Manufacturer and Contractor shall use equipment and methods adequate to protect the pipe, joint elements and prevent shock contact of adjacent units during moving or storage. Damaged sections that cause reasonable doubt as to their structural strength or water tightness will be rejected.
- B. Furnish pipe and fittings of materials, joint types, sizes, strength classes, coatings and linings as indicated and specified.
 - 1. Acrylonitrile Butadiene Styrene (ABS) composite sewer pipe and fittings shall conform to ASTM D 2680, except as otherwise specified herein.
 - a. Furnish maximum pipe lengths, normally produced by the manufacturer except for fittings, closures and specials. All exposed end sections shall be sealed in accordance with the manufacturers' recommendation.
 - b. Pipe shall consist of two concentric thermoplastic tubes integrally braced across the annulus with resultant annular space filled with inert material to provide continuous support between inner and outer tubes. Bell end shall be factory attached solvent weld coupling.
 - c. Pipe joints and fittings shall be solvent welded conforming to ASTM D 2680.
 - d. Fittings defined as tee or wye connections suitable for assembly to four inch or six inch building service lines shall be bell end with a minimum wall thickness conforming to SDR35 and shall be provided by the pipe manufacturer.
 - 2. Acrylonitrile Butadiene Styrene (ABS) sewer pipe and fittings shall conform to ASTM D 2751, except as otherwise specified herein.
 - a. Furnish maximum pipe lengths, normally produced by the manufacturer, except for fittings, closures and specials.
 - b. Pipe shall have an integral wall bell and spigot joint and a minimum wall thickness conforming to SDR 23.5.
 - c. Pipe joints and fittings shall be type OR or SC conforming to ASTM D 2680. Gaskets for elastomeric joints shall conform to Section 3 of ASTM C 443. Joints shall also conform to ASTM D 3212.

- d. ~~Fittings defined suitable for assembly to four inch or six inch building service lines shall be bell-end with a minimum wall thickness conforming to SDR 23.5 and shall be provided by the pipe manufacturer.~~
3. ~~Ductile iron pipe and fittings shall conform to ANSI A 21.51, except as otherwise specified herein.~~
- a. ~~Furnish maximum pipe lengths normally produced by the manufacturer except for fittings, closures and specials.~~
 - b. ~~Mechanical and push-on joints for pipe and fittings shall conform to the requirements of ANSI A 21.11. Flanged joints for ductile iron pipe and fittings shall conform to the requirements of ANSI A 21.10. Gaskets shall be neoprene or other synthetic rubber material. Natural rubber gaskets will not be acceptable.~~
 - c. ~~Fittings shall be in accordance with ANSI/AWWA C 110 and shall have a pressure rating of not less than that specified for the pipe. Fittings used with ductile iron pipe shall be ductile iron or cast iron. Fittings for pipe with mechanical joints shall have mechanical joints.~~
 - d. ~~Where required pipe and fittings shall be furnished with exterior bituminous coating conforming to ANSI A 21.51.~~
 - e. ~~All pipe and fitting linings, if specified, shall conform to the following:~~
 - (1) ~~Pipe shall have an interior cement-mortar lining conforming to ANSI A 21.4.~~
 - (2) ~~Fittings shall have an interior coating not less than one mil in thickness which conforms to all appropriate requirements for seal coat in ANSI A 21.4.~~
4. ~~Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR PR) and Fittings shall conform to ASTM D 2241, except as otherwise specified herein.~~
- a. ~~Furnish maximum pipe lengths normally produced by the manufacturer, except for fittings, closures and specials. Pipe shall be used only for pressure flow systems.~~
 - b. ~~The pipe shall be made of PVC plastic pipe having a cell classification of 12454 B or 12454 C as defined in ASTM D 1784.~~
 - c. ~~Pressure flow systems, i.e., force mains, shall have a minimum wall thickness conforming to SDR 23.5 and a minimum hydrostatic design stress of 2000 psi conforming to pipe materials designation codes PVC 1120, PVC 1220, or PVC 2120.~~
 - d. ~~Pressure flow systems, i.e., force mains shall be joined in accordance with ASTM D 3139 with particular attention given to Section 5.3.~~
 - e. ~~Fittings for pressure flow systems, i.e., force mains shall have a minimum wall thickness conforming to SDR 23.5 and a minimum hydrostatic design stress of 2000 psi conforming to pipe materials designation codes PVC 1120, PVC 1220, and PVC 2120.~~
5. ~~Type PSM Poly Vinyl Chloride (PVC) Sewer Pipe and fittings shall conform to ASTM D3034, except as otherwise specified herein.~~
- a. ~~Furnish maximum pipe lengths normally produced by the manufacturer except for fittings, closures and specials.~~
 - b. ~~The pipe shall be made of PVC plastic having a cell classification of 12454B or 1245C or 13364B as defined in ASTM D 1784.~~
 - c. ~~Pipe shall have an integral wall bell and spigot joint and a minimum wall thickness conforming to SDR 35.~~
 - d. ~~Joints shall conform to ASTM D3212. Joints shall be push-on type only with the bell-end grooved to receive a gasket. Elastomeric seal (gasket) shall have a basic polymer of synthetic rubber conforming to ASTM F477. Natural rubber gaskets will not be accepted.~~

- e. ~~Fittings defined as tee or wye connections suitable for assembly to four-inch or six-inch building service lines shall be bell-end with a minimum wall thickness conforming to SDR 35 and shall be furnished by the pipe manufacturer.~~
6. ~~Type PS 46 Poly Vinyl Chloride (PVC) Sewer Pipe and Fittings shall conform to ASTM F789, except as otherwise specified herein.~~
- a. ~~Furnish maximum pipe lengths normally produced by the manufacturer except for fittings, closures and specials.~~
 - b. ~~The pipe shall be made of PVC plastic having a cell classification of 12164-B as defined in ASTM D1784.~~
 - c. ~~Pipe shall have an integral wall bell and spigot joint and a minimum pipe stiffness of 46 psi: (320kPa).~~
 - d. ~~Joints shall conform to ASTM D3212. Joints shall be push-on type only with the bell#end grooved to receive a gasket. Elastomeric seal (gasket) shall have a basic polymer of synthetic rubber conforming to ASTM F477. Natural rubber gaskets will not be accepted.~~
 - e. ~~Fittings defined as tee or wye connections suitable for assembly to four-inch or six-inch building service lines shall be bell-end conforming to all the requirements of ASTM F789 and shall be furnished by the pipe manufacturer.~~
7. ~~Reinforced Concrete Pipe and Fittings shall conform to ASTM C 76 except as otherwise specified herein.~~
- a. ~~Furnish maximum lengths normally produced by the manufacturer except for fittings, closures and specials.~~
 - b. ~~Fine aggregate shall be natural sand conforming to the requirements of MCID section 4— Materials. Reinforcement may be circular or elliptical. Elliptically reinforced pipe shall be marked in accordance with Section 17.2, ASTM C 76 for correct installation. Modified or special designs are prohibited unless so specified in the Special Provisions.~~
 - c. ~~Pipe and fittings shall be furnished with either spigot groove type joint with O-ring gasket with the joint opening not greater than three-eights-inch or steel end joint with spigot groove and O-ring gasket. The basic polymer for O-ring gaskets shall be synthetic rubber and shall conform to ASTM C 361 and ASTM C 443.~~
 - d. ~~Fittings and specials shall have strength equal to design D loads of adjacent pipe and be fabricated as one of the following types:~~
 - (1) ~~Steel cylinder segments not less than U.S. No. 16 gauge lined with three-fourths-inch concrete or mortar and reinforced concrete exterior.~~
 - (2) ~~Concrete pipe sections cut while still green, reinforcing exposed and welded together at junctions and miters. Splice shall be built up to nominal wall thickness with mortar or concrete.~~

~~Miters shall not exceed 30 degrees at deflection angles between segments. Minimum center line curve radius shall not be less than twice the pipe diameter.~~
8. ~~Vitrified Clay Pipe and Fittings shall conform to ASTM C 700 Extra Strength except as otherwise specified herein.~~
- a. ~~Furnish maximum pipe lengths normally produced by the manufacturer with either bell-end or plain-end except for fittings, closures and specials.~~
 - b. ~~All pipe joints shall conform to ASTM C 425 with synthetic rubber seals.~~
9. ~~Poly (Vinyl Chloride) (PVC) profile gravity sewer pipe and fittings based on controlled inside diameter shall meet the requirements of A.S.T.M. F 794.~~
- a. ~~Pipe is approved for use only in sizes 18" through 48" in diameter.~~

- b. ~~Furnish maximum pipe lengths normally produced by the manufacturer, except for fittings, closures and specials.~~
 - e. ~~The pipe shall be made of PVC plastic having a minimum cell classification of 12454-C or 12364-C as defined in A.S.T.M. D-1784.~~
 - d. ~~Pipe shall have an integral wall bell and spigot joint and a minimum pipe stiffness of 46 psi (320k Pa).~~
 - e. ~~Joints shall conform to A.S.T.M. D 3212. Joints shall contain an elastomeric gasket meeting the requirements of A.S.T.M. F 477.~~
 - f. ~~Fittings defined as wye or tee connections suitable for assembly to four inch or six inch building service lines shall be bell end with a minimum wall thickness conforming to A.S.T.M. D 3034, SDR 35 or A.S.T.M. F 789 and shall be furnished by the manufacturer.~~
- G. ~~Pipe embedment materials shall be furnished and installed to complete the work shown on the Plans or as called for in the Contract Documents.~~
- 1. ~~All materials used for crushed stone pipe bedding shall conform to the requirements of MCIB Section 4 - Materials for Coarse Aggregate Table 2, Column III, modified to meet the following graduations:~~

Sieve Size Graduations	Percentage Passing
No. 3/8" Sieve	100
No. 4 Sieve	30-42
No. 10 Sieve	0-4

- D. ~~Concrete shall test not less than a 28 day compressive strength of 4,000 psi and shall otherwise conform to specifications contained herein.~~
- E. ~~Reinforcing steel when required, shall be placed as shown on the plans and shall conform to specifications contained herein.~~
- F. ~~Backfill materials shall be as required and/or permitted to complete the work shown on the Plans or called for in the Contract Documents.~~
 - 1. ~~Granular backfill material shall meet the requirements as outlined in Article 6.~~
 - 2. ~~Select earth backfill material shall be finely divided job excavated material free from debris, organic matter, rocks larger than one inch and/or frozen materials.~~
 - 3. ~~Other earth backfill may be a mixture of earth and rock not larger than one foot measured along its longest axis.~~
- G. ~~Pipe encasement materials shall be furnished and installed to complete the work shown on the Plans or as called for in the Contract Documents.~~
 - 1. ~~Pipe encasement, when required and/or permitted, is intended to provide maximum support for pipe in locations where standard embedment or cover may be insufficient.~~
 - 2. ~~Concrete and reinforcing steel must meet standards.~~
 - a. ~~Concrete used for pipe encasement shall test not less than a 28 day compressive strength of 3,000 psi and shall otherwise conform to specifications contained herein.~~
 - b. ~~Reinforcing steel, when required, shall conform to specifications contained herein.~~
- H. ~~This subsection governs the furnishing of all materials and equipment necessary for the construction of tunnels complete with lining, bulkheads, and stabilized sand fill at locations shown on the Plans or where constructed at the Contractor's option, when approved by the Engineer, to pass other utilities, streets, or obstructions without open excavation.~~

1. Furnish materials and necessary accessories with strengths, thicknesses, coatings, and fittings indicated, specified and/or necessary to complete the work.
2. Steel tunnel liner plates shall be Armeo "Standard", Commercial Shearing and Stamping Company "Commercial", Republic "Trusecon Paneled Out", or equal and shall be galvanized in accordance with ASTM A 123. The design and shape of the liner plates shall be such that assembly can take place entirely from within the tunnel liner. Liner plates shall be capable of withstanding the ring thrust load and transmitting this from plate to plate. The minimum outside diameter shall be four feet and the minimum wall thickness shall be United States Standard Gauge 12 (0.2046 inches). Sufficient sections shall be provided with one and one-half inch or larger grouting holes located near the centers so that when the plates are installed there will be one line of holes on either side of the tunnel and one at the crown; the lower line of holes on each side shall not be more than 18 inches above the invert. The holes in each line shall not be more than five feet apart and unless otherwise approved, shall be staggered. Bolts and nuts shall conform to ASTM A 153, A 307, A 325 and A 449 as applicable. Steel liner plates shall have bolted joints in both longitudinal joints in adjacent rings when assembling.
3. Steel casings for bored or jacked construction shall be steel pipe conforming to ASTM A 139 with a minimum diameter as shown on the plans. Corrugated steel casing pipe will be considered on a case-by-case basis.
 - a. Minimum wall thickness shall be in accordance with the following table.

Diameter of Casing—Inches	Nominal Wall Thickness—Inches	
	Under Railroads	All Other Uses
16	0.312	0.188
18	0.312	0.250
20	0.375	0.250
22	0.375	0.250
24	0.406	0.281
26	0.438	0.281
28	0.469	0.312
30	0.469	0.312
32	0.500	0.312
34	0.500	0.312
36	0.500	0.344

- b. Steel shall be Grade B under Railroads and Grade A on all other uses.
 - c. Steel pipe shall have welded joints in accordance with AWWA C-206.
4. Reinforced Concrete Pipe used as casing shall conform to ASTM C 76 except as otherwise specified under Section 20.08.003-B 8 and as specified herein.
 - a. Provide ASTM C 76 circular pipe of the strength class required for the jacking of pipe when determined by method set forth in the latest printing of Concrete Pipe Design Manual prepared by the American Concrete Pipe Association.

- b. Reinforced concrete pipe used for casing pipe shall be provided with steel end joint with a groove in the spigot end for an O-ring gasket. The spigot end for an O-ring gasket shall be synthetic rubber. Both joint and gasket shall otherwise conform to ASTM C 361.
- e. Interior protection is not required for reinforced concrete pipe used for casing conduit.
- 5. Casing conduit grout shall be cement grout with a mixture of two parts Portland Cement, one part fly ash to not more than six parts sand with the minimum amount of potable water to allow a workable mixture.
- 6. Cement sand mixture used in casing conduits shall be a mixture of one part Portland Cement to five parts clean sand thoroughly mixed prior to being blown into the opening.
- 7. Wood skids shall be provided as indicated on the Plans. The wood shall be pressure treated with creosote, pentachlorophenol, or salt type preservative in accordance with APWA C 2. Cut surfaces shall be given two heavy brush coats of the same preservative.

Sec. 20.08.004. Site preparation.

- A. This section governs normal project site preparation for construction.
 - 1. Contractor shall do all clearing necessary for performance of the work and shall confine all operations to that area provided through easements, licenses, agreements and rights-of-way. The Contractor's entrance upon any lands outside of that area provided by easements, licenses, agreements or public rights of way, shall be at the Contractor's sole liability.
 - 2. The Contractor shall not occupy any portion of the Project Site prior to the date established in the Notice to Proceed without prior approval of the Engineer.
 - 3. All work shall be performed in according with applicable provisions of Chapter 20 of the City Code.

Sec. 20.08.005. Excavation.

- A. This section governs the methods and procedures required for pipeline excavations for open cut and tunneling.
- B. The terms "excavation" and "trenching" shall mean the removal and subsequent handling of all material required to perform the work.
 - 1. All pipeline excavation work shall be accomplished under supervision of a person experienced with the materials and procedures which will provide protection to existing improvements, including utilities and the proposed pipeline.
 - 2. The alignment, depth, and pipe subgrades of all sewer trenches shall be determined by overhead grade lines parallel to the sewer invert.
 - 3. The Contractor shall not open more trench in advance of pipe laying than is necessary. Four hundred feet will be the maximum length of open trench allowed on any line under construction. All open trenches shall be adequately protected.
 - 4. In the event hazardous wastes as defined by the Resource Conservation and Recovery Act of 1976 (PL94-580) are encountered, work shall be halted and the Engineer shall be notified. Works shall be resumed only after the Engineer notifies the Contractor. Removal, handling and disposal of hazardous wastes is the responsibility of Federal and State agencies.
- C. Unclassified excavation is defined as the removal of all material encountered regardless of its nature. All material excavated will be considered as Unclassified Excavation unless the Special Provisions specify Classified Materials.
- D. Rock excavation is defined as the removal of all rock ledges six inches or more in thickness, and detached rock or boulders having a volume of more than one and one-half cubic yards and shale occurring in its natural state, hard and unweathered.
A rock ledge is defined as a continuous body of rock; which may include interbedded seams of soft materials. Such interbedded soft material less than 12 inches (300 mm) in thickness will be included in the measurement of rock excavation. Such seams 12 inches (300 mm) or greater in thickness will be included only in the measurement of earth excavation.

- E. ~~Earth excavation is defined as the removal of all material not defined as rock.~~
- F. ~~The Contractor shall remove any water which may accumulate, or be found in the trenches and other excavations made under the Contract.~~
- G. ~~Blasting shall be performed in accordance with provisions of Chapter 17, Article 13 of the City Code.~~
- H. ~~This item establishes the requirements to be followed for pipeline excavation performed by the open cut method (trenching).~~
 - 1. ~~Excavations for pipelines shall be accomplished by the open cut method (trenching) except as specified or approved by the Engineer. Trenching shall be performed with a minimum of inconvenience and disturbance to the general public. The Contractor shall sort and stockpile the excavated material so the proper material is available for backfill.~~
 - 2. ~~All trenches shall be excavated to depths required for proper pipe embedment. Overdepth excavation shall be required when the subgrade is unstable. Overdepth excavations shall be backfilled with granular pipe embedment material, unless otherwise directed by the Engineer.~~
 - 3. ~~Undercutting of trench walls is not permitted.~~
 - 4. ~~Trench widths shall be as follows:~~
 - a. ~~Trench widths and pipe clearances shall be as shown on the approved drawing.~~
 - b. ~~In areas where excessive trench width occur due to unstable materials, the applicable provisions of the appropriate ASTM or AWWA Installation Standards for the material types being used shall apply.~~
 - 5. ~~When reinforced concrete and ductile iron pipe is utilized the strength class and the maximum allowable trench width, as established by the Engineer will be shown on the Plan.~~
 - 6. ~~Contractor may perform excavation by tunneling methods as set forth herein, at no additional cost to the Owner provided prior approval for each such location is obtained from the Engineer.~~
- I. ~~This item establishes the requirements to be followed for pipeline excavation performed by tunneling, boring and jacking methods.~~
 - 1. ~~Tunneling includes all underground horizontal excavations necessary to install the pipeline. The Contractor shall submit to the Engineer, prior to actual work, a written description of the proposed tunneling operation. It shall include the types and locations of shafts, methods to provide safe support strength for the pipeline when the shafts or bore pits exceed maximum allowable trench widths and other features which would affect the pipeline.~~
~~Tunneling shall be accomplished with a minimum of inconvenience and disturbance to the general public and abutting property owners, and provide an adequate working area.~~
 - 2. ~~The tunnel shall be circular in cross section and of the size specified. Alternate size and shape may be submitted for consideration by the Engineer.~~
 - 3. ~~All tunnel excavation shall provide an excavation conforming to the outside diameter of the casing and/or carrier conduit. The excavation shall be to an alignment and grade which will allow the carrier conduit to be installed to proper line and grade as shown on the Plans and as established in Section 20.08.006, Installation.~~
 - a. ~~Conduct excavation in a manner to prevent disturbing overlying and adjacent material. Perform dewatering and chemical soil stabilization or grouting if necessary, due to existing field conditions.~~

Sec. 20.08.006. Installation.

- A. ~~This section governs construction methods and procedures for the installation of gravity and pressure pipelines and appurtenances.~~
- B. ~~All pipeline installations shall conform to the following requirements.~~

1. Sanitary sewer line installations shall comply with applicable State and Environmental requirements.
2. Contractor shall maintain a dry and stable trench and provide for the proper method of discharging such water from the work site at all times until pipeline installation is completed to the extent that hydrostatic pressure flotation or other adverse effects will not result in damage to the pipeline.
 Proper dewatering techniques are the Contractor's sole responsibility. All work Performed by the Contractor which is adversely affected by failure to adequately dewater trenches will be subject to rejection by the Engineer. The Contractor shall repair and/or replace the affected pipeline without additional compensation.
3. Any pipeline crossing a well-defined drainage course, having less than three feet of cover over the pipe, shall be encased in concrete. The length of encasement shall be as shown on the Plans or if not shown, as specified by the Engineer.
4. All shoring, bracing, or blocking, shall be furnished and installed as necessary to preserve and maintain exposed excavation faces, to protect existing improvements, to protect the proposed pipeline and to provide for safety.
 Shoring or other methods for support of trench walls is the responsibility of the Contractor and shall be so done by methods which will not adversely affect pipeline alignment, grade and/or structural integrity.
 All bracing, sheeting and/or shoring installed below a horizontal plane six inches above top of proposed pipe, shall not be disturbed or removed after pipe and/or pipe embedment has been installed, unless otherwise specified. The bottom skids of a trench shield shall not extend lower than six inches above top of proposed pipe.
5. All pipe embedment shall be as shown on the approved drawings. All Class A concrete embedments for rigid conduits shall begin and end at a pipe joint.
6. The trench subgrade shall be prepared to provide a uniform and continuous pipe support between pipe bells and joints.
 - a. Place and densify embedment material so that the pipe will be true to line and grade after installation.
 - b. After each pipe has been brought to grade, aligned, and placed in final position, deposit and densify by shovel slicing sufficient bedding material under the pipe haunches and on each side of the pipe to hold the pipe in proper position during subsequent pipe jointing, bedding, and backfilling operations. Place bedding material uniformly and simultaneously on each side of the pipe to prevent lateral displacement.
 - c. Place pipe that is to be bedded in Class A (concrete) embedment in proper position on temporary supports consisting of wood blocks or bricks with wood wedges. When necessary, anchor or weight the pipe to prevent flotation when the concrete is placed.
 - d. Place concrete for Class A (concrete) embedment or encasement uniformly on each side of the pipe and deposit at approximately its final position. Do not move concrete more than five feet from its point of placement.
 - e. If unstable subgrade conditions are encountered and it is determined by the Engineer that the bedding specified will not provide suitable support for the pipe, additional excavation to the limits determined by the Engineer will be required. This additional excavation shall be backfilled with crushed stone material approved by the Engineer.
7. All Class A embedments require concrete providing a 28-day compressive strength of not less than 3,000 pounds per square inch, or as otherwise specified. After initial set of concrete, one foot of backfill material should be placed over the conduit or concrete. The backfill above this point shall not be placed nor sheeting removed until at least 48 hours after placement of the concrete. Time requirements may be adjusted by the Engineer to obtain structural integrity.

8. Class B embedments will require the pipe to be bedded in granular material, with a minimum depth below and above the pipe as shown on the approved drawings, meeting requirements of Section 20.08.003.F.
9. Pipeline anchors shall be installed at no greater than 36 feet maximum spacing on all pipelines installed at greater than a 20 percent grade. The pipe line anchors shall be non reinforced concrete with a four feet minimum width. The anchor length shall be the trench width, with a minimum length of two feet. The concrete thickness below and above the pipeline shall be as follows:

Pipe Size	Thickness
8"	7"
10"	11"
12"	15"
Above 12"	24"

10. Tees, Wyes, and service lines shall be installed as shown on the Plans or specified herein.
 - a. Tees, wyes and saddles shall be installed at 45 degree with pipe springline, for pipe sizes eight inch through 21 inch diameter. Tees, wyes and saddles shall not be installed in pipe sizes greater than or equal to 21 inch diameter.
 - b. Service lines shall be installed with a straight alignment and at a uniform grade not less than one percent unless otherwise specified and shall be embedded with Class B embedment. When a service line grade exceeds 20 percent, pipeline anchors shall be installed as required herein, with the first anchor not more than 12 feet nor less than seven feet upstream of the tee or wye.
 - c. The Contractor shall maintain an accurate record for submittal to the Engineer of location, size and direction of each tee, wye, saddle and/or location, size and length of each building service line. Locations shall use the pipeline stationing as shown on the Plans, or the distance from the first downstream manhole. In the event such records are not kept, or are lost before final acceptance of the work, the required information shall be redetermined by the Contractor at no additional cost to the Owner.
 - d. In addition, each wye branch, or house service lateral, shall be marked with a detectable plastic and metal marking tape from the main to terminal end of said lateral or branch, and shall be placed two feet below the ground surface. Tape shall be green in color and marked with wording "CAUTION SEWER LINE BURIED BELOW".
 - e. Wye branches shall be located at the points shown on the plans, or designated by the Engineer, and shall be constructed from the sewer main at least to the right-of-way or easement line adjacent to the property to be served prior to construction of the street. The Contractor shall be certain that the wye branch locations have been staked in advance of the construction of any sewer serving any property which will require sanitary sewer service and, in case such locations have not been so designated, shall stop the sewer construction until the necessary wye branch locations have been obtained and marked. Wye branches shall not be backfilled until the location of each has been recorded on the as-built plans to be submitted to the City Engineer for a permanent record.

Wye branches shall be closed by means of suitable stoppers, or otherwise according to manufacturer's specification for watertight fitting. Wye branches shall be completely supported with granular fill up to the mid-height of the branch.
11. All gravity sewers shall be installed to the alignment, elevation, slope, and with pipe embedment as specified and/or shown on the Plans.

12. All pressure sewers (force mains) shall be installed with required pipe embedment to slopes and depths shown on the Plans, and to a continuous slope when not shown. Approved air relief valves shall be installed at all locations shown on the Plans or where required by the Engineer.

The Contractor shall block and anchor the pipeline to accommodate thrust and testing forces at pipe deflections, bends, tees, and plugs in accordance with the Contract Documents. All damage caused by the Contractor's failure to provide adequate thrust supports shall be corrected by the Contractor at no additional cost to the Owner.

13. Pipelines shall be anchored in accordance with the table below:

Pipeline Anchors	
Percent of Grade	Center to Center Max. Spacing (Feet)
20—35	36
35—50	24
50	16

The anchor shall be of concrete or other material approved by the Engineer. Concrete anchors shall have a minimum thickness of 12 inches. The anchor shall extend not less than one foot into undisturbed earth on the sides and bottom and one foot above top of pipe. In incompressible material, the above dimensions may be six inches each side and bottom. The anchor shall support a joint fitting.

14. All pipe shall be installed in accordance with the pipe manufacturer's recommendation, except as modified herein:
- a. Pipe laying shall not proceed if the trench width as measured at the top of pipe exceeds the maximum allowable trench width. If this occurs the Contractor shall provide, to the approval of the Engineer better bedding for the pipe or pipe of sufficient strength to provide safe supporting strength.
 - b. All pipe and fittings shall be stored and handled with care to prevent damage thereto. Do not use hooks to transport or handle pipe or fittings. Do not drop pipe or fittings.
 - c. Rejected pipe and fittings shall be marked and removed from the project site at no cost to the Owner. All pipe and fittings shall be examined for soundness and specification compliance prior to placement in the trench and rejected pipe or fittings shall not be incorporated into the pipeline. Check the class or pipe strength to be sure proper pipe is installed.
 - d. Clean joint contact surfaces prior to jointing. Use lubricants, primers, or adhesives as recommended by the pipe or joint manufacturer.
 - e. Pipe laying normally shall begin at the lowest point.
 - f. Unless otherwise required, lay all pipe straight between manholes. Excavate bell holes for each pipe joint. When jointed, the pipe shall form a true and smooth pipeline.
 - g. Pipe connecting to a structure shall be supported with Class A embedment, cradle or encasement, to a point six inches outside the structure excavation. If flexible wall connections are used, Class B embedment may be used.
 - h. All pipelines shall be plugged at the end of each day's progress. Plugs or other positive methods of sealing shall be utilized at all times to protect any existing system from entrance of stormwater or other foreign matter.
 - i. When a sanitary sewer line crosses an existing pipeline and the clearance is less than two feet, special embedment may be required.

15. ~~The connection of pipes of different materials shall be made using a proprietary transition coupling, and shall provide a permanent and watertight connection which will withstand the hydrostatic test pressure.~~
- C. ~~All pipes shall be installed in accordance with the following standards:~~
1. ~~ASTM 2321—ABS Solid Wall, ABS Composite Wall, ASTM 2321—PVC Solid Wall.~~
 2. ~~ANSI/AWWA C 600—Ductile Iron Pipe.~~
 3. ~~ASTM C 12—Vitrified Clay Pipe.~~
 4. ~~Reinforced Concrete Pipe—Installed in accordance with American Concrete Pipe Association's "Installation Manual".~~
- D. ~~Casing and carrier conduits shall be installed at required locations by methods acceptable to the Engineer. Installation of the carrier conduit shall be completed prior to installation of the adjacent portions of the pipeline to allow for adjustments.~~
1. ~~The types of casing to be used will be limited.~~
 - a. ~~Steel Casing Pipe is a flexible conduit and shall be designed to conform with one of the following design concepts (other methods may be submitted to the Engineer for approval):~~
 - (1) ~~Method A. The steel casing conduit is considered a temporary construction means for the installation of the carrier conduit; therefore, cathodic and corrosion protection is not required provided that the carrier and its joints are structurally designed to withstand all possible loadings (live, earth and superimposed) which would otherwise be supported by the casing conduit, and to withstand all pressures necessary to install the required grout. All exterior voids around the casing conduits and interior void between the carrier and casing conduits shall be filled with a casing conduit grout. Casing conduit grout shall be applied under pressure to fill all of the voids without adversely effecting the carrier conduits, joints, alignment and grade.~~
 - (2) ~~Method B. The steel casing conduit is considered a permanent installation to protect the carrier conduit, and to support all loads, therefore cathodic and corrosion protection and watertight removable end seals are required for the casing conduit. Care shall be exercised to prevent the carrier conduit from floating and receiving any load transfer from the casing conduit unless it is designed for such loading. The void between casing and carrier conduits shall be treated as shown on the drawings. Cathodic and corrosion protection for method B shall be provided by two magnesium anodes, one at each end of the casing pipe, with a lead wire connected to the encasement pipe by thermite welding.~~
 - b. ~~Reinforced Concrete Casing Pipe is a rigid conduit and shall be installed in accordance with recommended procedures in the latest printing of the Concrete Pipe Design Manual, prepared by the American Concrete Pipe Association.~~
 2. ~~Installation of casing shall be supervised by a supervisor experienced in such work. Casing shall be installed by a combination of auguring and jacking. Alignment and gradient shall be such that the carrier conduit can be installed to line and grade shown on the Drawings.~~
~~Welding shall be performed by a person experienced with the type of welding necessary. All welds shall conform to AWWA C 206.~~
 3. ~~Liner plates shall be assembled immediately following the excavation. Advance the liner plates or casing continuously with excavation. All voids between liner and surrounding earth shall be filled with casing conduit grout forced in under pressure. As the pumping through any hole is completed, it shall be plugged to prevent the back-flow of grout. After lining installation is complete, it shall be cleaned of all debris and all leaks sealed.~~
 4. ~~After completion of the installation of the casing, the carrier conduit shall be carefully pushed or pulled through the casing in a manner which will maintain proper jointing of the pipe joints and provide required gradient and alignment. Pipe skids shall be provided as indicated on the Plans. The skids shall be securely strapped to the pipe with stainless steel strapping material at least three-quarters inch wide.~~

5. ~~Annular space between lining and sewer pipe shall be filled with stabilized sand from end seal to end seal, if required. The fill shall be placed inside casing, tested and approved in a manner that will not disturb the alignment and/or grade of sewer pipe. Cement sand mixture used in casing conduits shall be as specified herein. Stabilized sand shall be thoroughly mixed in a mechanical mixer and shall be blown into the casing so that all space is filled.~~
6. ~~Construct end seals after sewer pipe has been installed and approved. Brick shall be in accordance with ASTM C 32, Grade SS or SM and mortar in accordance with ASTM C 270.~~
7. ~~Air pressure, and/or exfiltrating test as required shall be successfully performed on the carrier conduit prior to filling the void between casing and carrier conduits with grout or other materials, or the sealing of the ends of the casing conduit.~~
8. ~~Carrier conduits installed without casing shall be assembled at the entrance to the auger hole and carefully pushed or jacked through the opening using a method designed to prevent disturbing the assembled joints. Auger holes shall be sized to accommodate the carrier conduit with a minimum of annular space around the conduit. When finally in place, carrier conduit shall be true to the line and grade required on the Plans.~~

Sec. 20.08.007. Backfill.

- A. ~~This section governs the furnishing of all labor, equipment, tools and materials to properly backfill trenches and structures.~~
 1. ~~All trash and debris shall be removed from the pipeline excavation prior to backfilling.~~
 2. ~~Unless otherwise specified, all sewer trenches and excavation around structures shall be backfilled to the original surface of the ground with earth or earth and rock. When earth and rock is used, it shall be placed and thoroughly consolidated with sufficient earth to completely fill all voids between the rocks.~~
 3. ~~The backfill material shall be placed in lifts. Each lift shall be compacted to the required density prior to the next lift being placed.~~
 4. ~~Commercial sand backfill shall not be used.~~
 5. ~~In areas marked "garden" or "flower garden" on the plans, the original topsoil shall be replaced to original elevation and depth.~~
 6. ~~Backfill material shall be carefully placed to avoid damage to or displacement of the pipe and other exposed utilities or structures.~~
 7. ~~Backfill shall not be placed when material contains frost, is frozen, or a blanket of snow prevents proper compaction. Backfill shall not contain waste material, trees, organic material, rubbish, or other deleterious substances.~~
 8. ~~No rock greater than one foot, measured along its longest axis, shall be placed within two foot of the top of the pipe in any excavation as backfill.~~
- B. ~~Backfilling under areas to be paved and existing pavement: From the top of the pipe embedment as shown on the approved standard drawings to a point at grade, backfill material shall be untreated aggregate meeting the requirements of Chapter 20, Article 6, and compacted to 95% maximum density as determined by ASTM D 698. Sidewalks and driveways are considered paved areas.~~
- C. ~~For those areas that will not be paved the backfill material from the top of the pipe embedment as shown on the standard drawings shall be compacted to no less than 90 percent of density at optimum moisture plus or minus two percent as determined by ASTM D 698, or within the tolerance of the moisture range for the type of material being used as determined by the Engineer. Lift thickness shall be within the capability of the compaction equipment used, but not greater than 24 inches.~~
- D. ~~Backfilling around a structure must be done in a manner that will maintain the integrity of the structure.~~
 1. ~~No backfill shall be placed over or around any structure until the concrete or mortar has attained a minimum strength of 2,000 pounds per square inch and can sufficiently support the loads imposed by the backfill without damage.~~

2. ~~The Contractor shall use utmost care to avoid any wedging action between the side of the excavation and the structure that would cause any movement of the structure. Any damage caused by premature or unbalanced backfill or by the use of equipment on or near a structure will be the responsibility of the Contractor.~~
3. ~~No excavated rock larger than four inches maximum dimension shall be placed within one foot of the exterior surface of any structure.~~

~~Sec. 20.08.008. Testing.~~

- A. ~~This section governs the furnishing of all labor, equipment, tools and materials, and the performance of any or all acceptance tests.~~
- B. ~~The Contractor shall furnish all labor, equipment, materials and reports for the required acceptance tests. All pipelines, including building service lines shall undergo and pass tests to determine the soundness and workmanship regarding alignment, grade, infiltration, exfiltration and/or pressure. Pipelines which do not conform to the project requirements shall be repaired and/or replaced and shall be retested until the pipeline meets the project requirements. Test results shall be recorded by the Contractor and a copy shall be submitted to the Engineer. No testing shall be performed before backfill and compaction operation has been completed.~~
- C. ~~Alignment, grade and visible defects shall be checked as follows:~~
 1. ~~Contractor shall clean pipe of excess mortar, joint sealant and other dirt and debris prior to inspection.~~
 2. ~~Sewer will be inspected by flashing a light between manholes and/or by physical passage to determine the presence of any misaligned, displaced, or broken pipe and other defects.~~
 3. ~~Sewer lines installed under this project are subject to inspection by closed circuit television at the Owner's expense. Access to the sewer manholes shall be provided by the Contractor at no expense to the City.~~
- D. ~~Hydrostatic or air pressure tests may be required on sewers before acceptance by the Owner. For sewers with a diameter less than 24 inches the infiltration-exfiltration shall not exceed 200 gallons per day per inch of nominal diameter per mile of sewer line for any section of the system. For sewers with a diameter 24 inches or greater infiltration-exfiltration shall not exceed 6,000 gallons per day per mile of pipe.~~
 1. ~~Where sewers are laid within the ground water table, infiltration testing may be conducted. Where evidence of infiltration is discovered by the Engineer, the Contractor shall install weirs or other suitable flow rate measuring devices adequate to determine to the satisfaction of the Engineer that the specified infiltration limit is not exceeded for that reach of gravity sewer. Where the specified infiltration limit is exceeded, the Contractor shall repair or replace the defective reach of pipeline at no additional cost to the Owner. Following repair of the pipeline, the Contractor shall remeasure infiltration flow rates and make additional repairs until an acceptable infiltration flow rate is achieved.~~
 2. ~~Where sewers are laid above the ground water table, exfiltration tests may be conducted. Exfiltration tests shall be performed by the Contractor using one or a combination of methods as set forth below.~~
 - a. ~~Hydrostatic Tests for Gravity Systems.~~
 - (1) ~~Test section shall be filled not less than 12 hours prior to testing. Refill test section prior to performing test.~~
 - (2) ~~Perform at depths of water as measured above center line of pipe of not less than two feet nor more than ten feet (consideration shall be given for water table above said centerline). Maintain test as necessary to locate all leaks, but not less than two hours.~~
 - b. ~~Hydrostatic Tests for Pressure Systems.~~
 - (1) ~~Perform hydrostatic pressure and leakage tests. Conform to AWWA C 600 procedures as modified herein. Tests shall apply to all pressure sewers.~~
 - (2) ~~Test in segments between sectionalizing valves, between a sectionalizing valve and a test plug, or between test plugs. Contractor shall furnish and install test plugs at no additional cost to the Owner, including all anchors, braces, and other devices to withstand hydrostatic~~

pressure on plugs. Contractor shall be responsible for any damage to public or private property caused by failure of plugs. Limit fill rate of line to available venting capacity.

- (3) Pressure Test. Conduct at 1.5 times maximum operating pressure determined by the following formula:

$$P_{pt} = (1.5)(.433)(OP - GE), \text{ in which}$$

P_{pt} = test pressure in psi at gauge elevation

OP = operating pressure in feet as indicated for highest elevation of the hydraulic gradient on each section of the line.

GE = elevation in feet at center line of gauge.

Perform pressure tests satisfactorily prior to determining leakage.

- (4) Leakage Test. Conduct at maximum operating pressure determined by the following formula: $P_{lt} = 0.433(OP - GE)$, in which

P_{lt} = test pressure in psi at gauge elevation OP and GE = as defined above. All joints shall be watertight and free from leaks.

c. *Air Testing of Gravity Systems:*

- (1) Each section of gravity pipeline between manholes and/or structures after backfill shall be tested as outlined below.
- (2) Contractor may perform air tests for all pipe sizes.
- (3) Furnish all facilities required including necessary piping connection, test pumping equipment, pressure gauges, bulkheads, regulator to avoid overpressurization, and all miscellaneous items required.
- (4) The pipe plug for introducing air to the sewer line shall be equipped with two taps. One tap will be used to introduce air in to the line being tested through suitable valves and fittings, so that the input air may be regulated. The second tap will be fitted with valves and fittings to accept a pressure test gauge indicating internal pressure in the sewer pipe. Additional valve and fitting will be incorporated on the tap used to check internal pressure so that a second test gauge may be attached to the internal pressure tap. The pressure test gauge will also be used to indicate loss of air pressure due to leaks in the sewer line.
- (5) The pressure test gauge shall meet the following minimum specifications:

Size (diameter)	4½ inches
Pressure Range	0—15 psi
Figure Intervals	1 psi increments
Minor Subdivisions	0.05 psi
Pressure Tube	Bourbon Tube or diaphragm
Accuracy	±0.25% of maximum scale reading
Dial	White coated aluminum with black lettering, 2700 arc and mirror edge
Pipe Connection	Low male ½-inch N.P.T.

Calibration data will be supplied with all pressure test gauges. Certification of pressure test gauge will be required from the gauge manufacturer. This certification and calibration data will be available to the Engineer whenever air tests are performed.

- (6) Plug ends of line and cap or plug all connections to withstand internal pressure. One of the plugs provided must have two taps for connecting equipment. After connecting air control equipment to the air hose, monitor air pressure so that internal pressure does not exceed 5.0 psig. After reaching 4.0 psig, throttle the air supply to maintain between 4.0 and 3.5 psig for at least two minutes in order to allow equilibrium between air temperature and pipe walls. During this time, check all plugs to detect any leakage. If plugs are found to leak, bleed off air, tighten plugs, and again begin supplying air. After temperature has stabilized, the pressure is allowed to decrease to 3.5 psig. At 3.5 psig, begin timing to determine the time required for pressure to drop to 2.5 psig. If the time, in seconds, for the air pressure to decrease from 3.5 psig to 2.5 psig is greater than that shown in the table below, the pipe shall be presumed free of defects.

Pipe Size	Required Time per 100 LF	Maximum Required Time
8"	70 sec.	227 sec.
10"	110 sec.	283 sec.
12"	158 sec.	340 sec.
15"	248 sec.	425 sec.
18"	356 sec.	510 sec.
21"	485 sec.	595 sec.
24"	634 sec.	680 sec.
27"	765 sec.	765 sec.
30"	851 sec.	851 sec.

If air test fails to meet above requirements, repeat test as necessary after all leaks and defects have been repaired and backfilled.

- E. Flexible pipelines may be tested for deflection by pulling a mandrel through the entire length thereof.
- The mandrel (go/no-go) device shall be cylindrical in shape and constructed with nine evenly spaced arms or prongs. Mandrels with less arms will be rejected as not sufficiently accurate. The dimensions of the mandrel shall be as listed in the accompanying table. The "D" mandrel dimension shall carry a tolerance of ± 0.01 inch. Allowances for pipe wall thickness tolerances or ovality (from heat, shipping, poor production, etc.) shall not be deducted from the "D" dimension but shall be counted in as a part of the five percent or lesser deflection allowance. Contact length (L) shall be measured between points of contact on the mandrel arm. The length shall not be less than as shown in the accompanying table.
 - The Engineer shall be responsible for approving the mandrel. Proving rings shall be used to verify this.
 - The mandrel shall be hand-pulled by the Contractor through all sewer lines. Any sections of sewer not passing the mandrel test shall be uncovered and the Contractor, at no additional cost to the Owner, shall reround or replace the sewer to the satisfaction of the Engineer. These repaired sections shall be retested.
 - The testing shall be conducted after final trench backfill.

D and L Dimensions For 9 Arm Mandrel		
Nominal Diameter	L	ASTM 3034 SDR 35 (5% Defl.)

8"	8"	7.56"
10"	10"	9.45"
12"	10"	11.26"
15"	12"	13.78"

Sec. 20.08.009. Manholes and special structures.

- A. This section governs the furnishing of all labor, equipment, tools, and materials, and the performance of all work incidental to the construction of manholes, drop manholes and special sewer structures complete with covers, steps, fittings and appurtenances as required in accordance with the Plans and Special Provisions.
- B. As used herein special structures refers to large manholes special junction structures, metering stations, siphons and similar structures constructed on the pipeline.
- C. Manholes and special structures may be constructed of precast concrete sections or cast in place concrete.
1. All manholes and special structures shall be waterproofed. Waterproofing shall be coal-tar paint and conform to ASTM D 450. Interior surfaces which are exposed to raw sewage and sulfide gases shall be coated with Tnemec "46-449 Heavy Duty Black" or approved equal. Exterior applications shall be coated with Tnemec "46-450 Heavy Tnemecol" or approved equal. The minimum dry thickness for all waterproofings shall be 14.0 mils.
 2. Pre-cast Concrete manholes shall conform to ASTM C 478 with the following modifications.
 - a. Wall thickness shall conform to the approved standard drawings.
 - b. Cement, Fine Aggregate, Coarse Aggregate and Water used in the manufacture of precast manholes shall be as specified herein.
 - c. The use of developed bases is recommended and approved. The diameter of the base pad shall be eight inches greater than outside diameter of the manhole.
 - d. Pipe openings shall be circular. Flexible gaskets are required. Flexible gaskets shall be Press-wedge, A-Lock, or approved equal.
 - e. The minimum distance from the invert of the downstream pipe to the top surface of the base shall be three inches.
 - f. Joints shall be sealed with preformed bitumastic sealants, Kent-Seal, Ram-Nek, E-Z Stick or approved equal. The minimum bead dimension shall be three-fourths of an inch square.
 3. Manhole and Special Concrete shall conform to "The Mid-West Concrete Industry Board Incorporated" (MCIB) Specifications and to the requirements therein for the MCIB Mix Number as specified on the Drawings or as provided herein.
 - a. Standard Concrete used for concrete encasements and embedments, thrust blocks, pipe anchors, pipe collars, etc., shall be MCIB Mix number 479-1-4, (3,000 psi 28-day strength), unless otherwise specified.
 - b. Structural Concrete used for aerial crossing piers, wet walls, manhole walls, bases, and flat slabs, etc. shall be MCIB Mix Number A-582-3/4-2, (4,000 psi 28-day strength), unless otherwise specified.
 - c. Air-entraining admixtures shall provide an air content within the range of 4½ to 7½ percent by volume as measured by the pressure method (ASTM C 231). The air-entraining admixtures shall meet the requirements of ASTM C 260.
 - d. Portland Cement shall conform to ASTM C 150 Type I. Where high early strength is desired, Type III can be used.

- e. ~~Fine Aggregate shall be clean, natural sand meeting the requirements of ASTM C 33. Grading shall be within the limits as set forth by MCHB.~~
 - f. ~~Coarse Aggregate shall be limestone obtained from the Bethany Falls, Farley, or Argentine ledges meeting the requirements of ASTM C 33. The sum total of all deleterious material shall not exceed five percent.~~
 - g. ~~Water shall be clean and free from deleterious substances. Only potable water will be acceptable without testing.~~
 - h. ~~Mixing and transporting of concrete shall be in accordance with Section 501 of the latest edition of the Missouri Standard Specifications for Highway Construction.~~
4. ~~Reinforcement steel shall conform with the following minimum requirements.~~
- a. ~~Design. Reinforcing steel shall conform to one of the following.~~
 - (1) ~~Welded Wire Fabric - ASTM A 185, Grade 40, or Grade 60.~~
 - (2) ~~Reinforcing Bars - ASTM A 615, Grade 40, or Grade 60.~~
 - (3) ~~Fabricated Steel Bar and Rod Mats - ASTM A 184, Grade 40, or Grade 60.~~
 - b. ~~Fabricating Tolerances for concrete reinforcement shall conform to the following requirements.~~
 - (1) ~~Sheared length = +/- 1 inch.~~
 - (2) ~~Stirrups, ties, and spiral = +/- 2 inch.~~
 - (3) ~~All other bends = +/- 1 inch.~~
5. ~~Iron castings shall conform to the requirements of ASTM A 48, Class 30. Castings shall be clean and without surface defects which will impair serviceability. Plugging or filling of holes or other defects will not be permitted. Parting fins and pouring gates shall be removed.~~
- a. ~~Rings and covers shall meet the following minimum requirements.~~
 - (1) ~~Bearing surfaces between the ring and cover shall be machine finished or ground to assure interchangeability and a nonrocking fit in any position.~~
 - (2) ~~Provision shall be made for opening, such as concealed pick hole(s).~~
 - (3) ~~Bolt down type manhole rings shall be anchored to the manhole walls with not less than four three-fourths inch diameter steel bolts embedded a minimum of 14 inches, except where the entire ring is embedded in a concrete top slab.~~
 - (4) ~~Rings and bolt down covers shall be provided with machined surfaces, O-ring gaskets and five eighths inch hex head brass cover bolts. Cover bolt heads shall fit flush or below the top of the cover. The O-ring rubber gasket shall be neoprene or other synthetic, 60 plus or minus five hardness when measured by ASTM D 2240 type durometer.~~
 - b. ~~Steps.~~
 - (1) ~~Cast iron steps shall meet the following minimum requirements.~~
 - (a) ~~Minimum cross sectional dimensions of one inch horizontally and one and one eighth inches vertically.~~
 - (b) ~~A skid resistant pattern in the step tread area consisting of multiple grooves one eighth inch deep and one eighth inch wide.~~
 - (c) ~~Upward protruding lugs on corners of step a minimum of three fourths inch high.~~
 - (d) ~~Provisions for secure anchorage in the manhole wall.~~
 - (2) ~~Steel core plastic coated steps shall meet the following minimum requirements.~~

- (a) The plastic coating shall be a copolymer-polypropylene meeting ASTM D 2146.
 - (b) The steel core shall be a minimum of one-half inch in diameter and grade 60.
- D. Manhole site preparation shall be governed by Section 20.08.004.
- E. Excavation for manholes and special structures shall be governed by this section and Section 20.08.005. It shall be achieved in a suitable and orderly manner providing a minimum disturbance to the general public.
- 1. Depth of excavation shall be to that required for proper installation of the manhole or structure. Over-depth excavation may be required by the Engineer if the subgrade is unstable. Overdepth excavation due to unstable subgrade shall be backfilled as required by the Engineer. Over-depth excavation occurring through an oversight by the Contractor shall be backfilled as required by the Engineer at no additional cost to the Owner.
 - 2. Side clearances outside the manhole and/or structures shall be no greater than to allow for forming, connection of piping, proper application of special coatings, if required, and to permit inspection. When concrete is to be placed directly against excavated faces, excavation shall be sufficiently outside of the manhole or structure to provide not less than three inches of concrete cover over the steel reinforcement.
- F. Manhole installation shall be governed by this section and Section 20.08.006. It shall be performed by the Contractor on a schedule which will provide an orderly progression of the work.
- 1. Bases for manhole installation will meet the following requirements.
 - a. Pre-cast developed bases shall be reinforced in accordance with ASTM C478.
 - b. If preferred developed bases are not used, poured concrete bases shall be used. Developed bases shall be installed on a maximum of four inches of crushed rock. Depths exceeding this amount shall be filled with mass concrete.
 - c. Poured in place bases shall have a minimum thickness of eight inches. The bottom wall sections shall be embedded in the base section a minimum of four inches. The bottom precast wall section shall not be set upon a previously poured base. Wood shall not be used for supporting or leveling the wall section prior to pouring the base.
 - 2. The minimum horizontal clear distance in the barrel of the manholes shall not be less than four feet unless otherwise specified on the plans.
 - 3. Precast concrete when used in manhole installations will meet the following requirements:
 - a. Precast concrete components shall not be delivered to the job until representative concrete control cylinders have attained at least 80 percent of the specified minimum design strength.
 - b. Precast concrete shall be inspected when delivered. Rejection of defective or cracked precast concrete components shall be in accordance with ASTM C478.
 - c. Wall thickness shall conform to the requirements of Section 20.08.009.C.5.a.
 - d. Precast sections shall be cleaned of all dirt, grass, and other deleterious matter. Seal each joint (including adjustment rings and castings) with a pre-formed flexible joint sealant. Sections shall be placed such that steps are aligned, but without rotation or damage to sealant integrity. Lift holes shall be patched with non-shrink grout.
 - 4. Cast-in-place concrete when used in manhole installations will meet the following requirements:
 - a. Wall thickness shall conform to the dimensions as shown on the drawings.
 - b. Reinforcement steel shall be placed as shown on the drawing. Tie holes shall be patched with non-shrink grout. Wall sleeves, where required, shall be installed as shown on the drawings. Water stops shall be installed at the wall and slab connection and shall be of the size, thickness and material as shown on the drawings.
 - c. Interior protective coatings, where required, shall conform to the material specifications. Application shall conform to the manufacturer's recommendation.

5. Top slab thickness shall conform to the dimensions and reinforcement steel shall be placed, as shown on the drawings.
6. Pipe stubs shall be installed at the locations, angles, elevations and of the materials as shown on the drawings. A watertight removable stopper shall be installed in each pipe stub. Pipe stubs shall be installed so that a pipe joint will be two feet or less from the outside manhole wall.
7. Inverts shall be standard concrete and steel troweled to produce a dense, smooth finish. The invert channel shall be "U" shaped in cross section and extend upward three fourths of the inside pipe diameter. Smooth transitions shall be formed for pipes of different sizes, elevation and bends. The invert bench shall be sloped to drain.
8. Steps shall be aligned vertically below the casting and spaced at 16 inch centers. The top step shall be not more than one foot below the top of the cone. The lowest step shall be not more than two feet above the invert bench. Field drilled step holes are not permitted in precast concrete manholes.
9. The finished top elevation of manhole castings shall conform to the following, unless otherwise shown on the plans or directed by the Engineer.
 - a. In paved or future paved areas, the top of the casting shall conform to the slope of the pavement and finished pavement elevations.
 - b. In non-pavement areas, the top of the casting shall match the surrounding ground unless directed otherwise by the Engineer. The final elevation shall be at a point where water will not pond over the manhole cover.
10. All new manholes will be provided with adjustment ring(s) underneath the casting if shown on plans. The joints shall be sealed with preformed bitumastic sealant. The maximum allowable adjustment distance between the top of the cone and the bottom of the casting shall be as shown on the plans.
11. If the top of an existing manhole is required to be raised to an elevation which will exceed the maximum adjustment distance, or lowered more than the adjustment rings will allow, all vertical adjustments shall be made to the barrel of the manhole.
12. Castings shall be installed with the mud ring inserted inside the manhole opening and resting on a minimum of two rows of preformed bitumastic sealer. Bolt down castings shall be held in place as shown on the Plans.

G. Manhole Backfilling shall be governed by Section 20.08.007.

H. Restoration shall be governed by Chapter 20.

Sec. 20.08.010. Measurement and payment.

- A. This section covers the methods of measurement and basis of payment for the furnishing of all labor, equipment, tools and materials and for the performance of all related work necessary to complete the item as specified.
 1. Sanitary sewer pipe shall be measured per linear foot or tenth part thereof for each line between structures and made to the inside face of the connecting structure. Payment will be made at the contract unit bid price regardless of the type of pipe used. Price shall include trenching, bedding, furnishing and installation of pipe, couplings, backfilling, compaction, testing and all other items required to complete the installation as specified.
 2. Manholes will be measured as a unit complete and in place of the various types constructed. Payment will be made at the contract unit price per each of the applicable types, size and depth of manholes listed in the proposal. Such payment shall constitute full compensation for all labor, material, equipment and the performance of all work necessary to complete the manholes, including excavation, backfilling and disposal of excess material.
 3. Concrete encasement measurement will be made to determine the number of linear feet of encasement constructed in accordance with the plans and specifications. Payment will be made at the contract unit price bid per linear foot and shall include the cost of furnishing all labor, equipment, tools, materials and the performance of all work to complete the encasement as specified.

4. ~~Manhole reconstruction measurement will be made to determine the number of vertical feet of manhole reconstruction in accordance with the plans and specifications. Payment will be made at the contract unit price to the nearest tenth vertical foot and shall include the cost of furnishing all labor, equipment, tools, materials and the performance of all work to complete the reconstruction as specified.~~
 5. ~~Manhole adjustments measurement will be made to determine the number of manholes adjusted. Payment will be made at unit price per each for each adjustment and shall include the cost of furnishing all labor, equipment, tools and material and the performance of all work to complete the manhole adjustments as specified.~~
 6. ~~Wye installation measurement will be made to determine the actual number of wyes installed. Payment will be made at the contract unit price per each and shall include the cost of trenching, installation, pipe materials, wyes, bedding, backfill, compaction and all items necessary to complete the installation as specified.~~
 7. ~~Connection to existing manhole measurement will be made to determine the actual number of connections made to existing manholes. Payment will be made at the contract unit price per each and shall include the cost of connecting new effluent, reshaping invert as needed, mortar, excavation, backfill and all other items necessary to complete the connections as specified.~~
 8. ~~Sanitary sewer lateral pipe shall be measured per linear foot or tenth part thereof for each line installed. Payment will be made at the contract unit bid price regardless of the type of pipe used. Price shall include trenching, bedding, furnishing and installation of pipe, couplings, backfilling, compaction, testing and all other items required to complete the installation as specified.~~
- B. ~~There shall be no measurement or separate payment or any other items of work not identified nor listed in the proposal and all costs pertaining thereto shall be included in the contract unit prices for other items listed in the proposal.~~

~~Secs. 20.08.011—20.08.999. Reserved.~~

ARTICLE 9. DESIGN CRITERIA FOR SANITARY SEWERS AND APPURTENANCES

Sec. 20.09.001. General

~~The following design criteria establishes practical, uniform design of sanitary sewers for the City of Independence, Missouri. These criteria cover design factors and provide guidelines for evaluation of plans and specifications. These criteria are not intended to cover extraordinary situations, and in such instances deviations from the criteria may be allowed where justified, upon the approval of the City Engineer.~~

~~Where the term "shall" is used, it is intended to mean a mandatory requirement insofar as any confirmation by the City Engineer.~~

~~"Up-sizing" means increasing the size of a sewer line which was designed by the developer to meet only the needs of the proposed development to a size determined by the City to meet the needs of the entire watershed in which the sewer is located, taking into consideration the location of the sewer in the watershed, the natural topography of the watershed and the adopted Comprehensive Plan of the City.~~

~~"Off-site sewer system extension or off-site sewer extension or off-site extension" means construction of a sanitary sewer system from an existing public sewer system to a proposed development where that construction required the proposed system extension to either cross private property not owned by the developer or be constructed in public right-of-way either fronting or crossing private property not owned by the developer in order to connect to the public sewer system.~~

Sec. 20.09.002. General requirements.

~~Sanitary sewer systems shall be designed for the ultimate tributary population and shall be based on the best information available, including current zoning regulations and approved planning and zoning reports. Only gravity sewers, in accordance with provisions contained herein, shall be considered for acceptance by the City.~~

~~Sewers shall be designed to provide capacity based on the following criteria unless directed otherwise by the City Engineer:~~

- A. ~~Single Family Residential—.015 cfs/acre~~

B. ~~Multi-Family Residential~~ .03 cfs/acre

C. ~~Commercial~~ .02 cfs/acre

D. ~~Industrial and High Rise (in excess of three stories). A unit flow study is required.~~

Sec. 20.09.003. Pipe size.

~~No gravity sewer main shall be less than eight inches in diameter. The sewer shall be sized based on the criteria set forth in Section 20.09.001 and 20.09.002. Pipe sizing shall be based on the Manning formula:~~

$$Q = \frac{1.486 R^2/3S^{1/2}}{n}$$

Where:

Q = Pipe flow capacity in cubic feet per second (cfs)

A = Inside area of pipe in square feet

R = Hydraulic Radius

S = Pipe slope in feet per foot n = Pipe roughness coefficient

Value for n shall be as follows for the particular type used:

RCP	.013
VCP	.013
Plastic composite	.011
Ductile Iron	.012

Headwater depths in a manhole shall not exceed one foot above the pipe opening. Headloss coefficients (K) at the manhole shall be as follows.:

Condition	
Thru-flow	.15
Junction	.4
Contraction transition	.1
Expansion transition	.2
90 degree bend	.4
45 degree and less bends	.3

Sec. 20.09.004. Minimum slope.

The following minimum slopes will be required:

Sewer Size	Minimum Slope in Feet per 100 Feet
8"	0.60
10"	0.44
12"	0.36

15"	0.28
18"	0.24
21"	0.20
24"	0.16

Exceptions to these minimum slopes be made for sewers serving less than 30 houses, where such sewer shall have a minimum slope of 0.76 percent. Where lateral sewers serve less than ten houses, the minimum slope shall not be less than one percent.

Sec. 20.09.005. Alignment.

Sewers shall be designed on straight alignment between manhole. The interior angle of the incoming and outgoing pipes in a manhole shall not be less than 90 degrees.

Sec. 20.09.006. Manhole location.

Manholes shall be installed at the end of each line; at all changes in pipe size; or changes in alignment or grade; and at distances not greater than 400 feet for sewers 21 inches and smaller and 500 feet for 24 inches and larger. When a sewer is located in an easement, not abutting street or alley right-of-way, access should be provided to all manholes, and manholes shall be provided at street or alley crossings.

Sec. 20.09.007. Manholes.

- A. The difference in elevation between the invert of any incoming sewer and the invert of the outgoing sewer shall not exceed 12 inches, except where required to match crowns. When a sewer joins a larger one, the crown of the smaller sewer shall not be lower than the crown of the larger one. The minimum drop through manholes shall be two tenths of one foot.
- B. Drop manholes shall be avoided as much as possible and the use thereof will require the approval of the Engineer. Drop manholes shall be required when the difference in the invert elevations exceeds 12 inches.
- C. The minimum horizontal clear distance within the barrel of manholes shall not be less than four feet. Pipes through the manhole wall shall be so located, or the diameter of the manhole increased, so that a section of manhole wall is retained between the pipes which is four inches or greater along the inside face. Minimum manhole diameter shall be in accordance with the approved drawings.
- D. Manholes subject to surface water inundation shall be equipped with bolted pressure covers and frames shall be bolted to manholes or imbedded in concrete where poured manholes are used.

Sec. 20.09.008. Sewer locations.

Sanitary sewers shall be located within street or alley rights-of-way, unless topography dictates otherwise. When located in easements on private property, access shall be provided from street or alley right-of-way.

Sec. 20.09.009. Pipe cover.

All sewer mains are to have a minimum of three feet of cover, except for aerial creek crossings. Sewer mains under paved areas are to have a minimum of six feet of cover, or by ductile iron pipe or concrete encased. Aerial crossings shall be ductile iron pipe with mechanical joints. Support shall be provided for all joints in pipes utilized for aerial crossings. The supports shall be designed to prevent frost heave, overturning and settlement. Precautions against freezing, such as insulation and increased slope, shall be provided. Expansion jointing shall be provided between above ground and below ground sewers. For aerial stream crossings, the impact of flood waters and debris shall be considered. The bottom of the pipe should be placed no lower than the elevation of the 50-year flood.

Sec. 20.09.010. Clean outs and lamp holes.

Clean outs and/or lamp holes shall not be permitted.

Sec. 20.09.011. Protection of water supply.

The location of sanitary sewers relative to water facilities is a matter of public health and accordingly is regulated by the Missouri Department of Natural Resources. Vertical separations shall be at least 18 inches between the outside of the pipes. Horizontal separations shall be at least ten feet measured edge-to-edge.

Sec. 20.09.012. Sanitary sewer easements.

All easements shall have a minimum 15-foot width. The sewer shall be located in the center of the easement, unless approved otherwise by the Engineer.

Sec. 20.09.013. Service connections.

- A. Wyes shall be placed to serve every building site. A wye shall be placed to serve each individual building. It shall be located at the lower one-third of the available sewer length to the property. Tees, wyes and saddles shall not be permitted in pipe sizes greater than or equal to 21-inch diameter.
- B. Service lines shall be required from the sewer main to the right-of-way or easement line adjacent to the property to be served. The service line shall be designed at a minimum of one percent slope. Every building shall have a separate service line to the main. Service lines shall be marked in accordance with Article 8, Section 20.08.006. Service lines shall be perpendicular to the sewer main.

Sec. 20.09.014. Plan requirements.

- A. This section governs the preparation of plans for sanitary sewers and includes the requirements for the scale to be used and other necessary information.
 - 1. The plans shall include all information necessary to build and check the design of sanitary sewer systems. The plans shall be arranged as required by the City Engineer. Standard details of the City may be used. Plans shall be sealed by a Registered Professional Engineer and shall be submitted to the City Engineer for review and approval.
 - 2. The plan sheet size shall be 24 inches by 36 inches.
 - 3. Each sheet shall contain a sheet number, total number of sheets, the engineer's seal, proper project identification, and date.
 - 4. Revised sheets submitted shall contain a revision block identifying the date and revised items.
- B. Plans shall be drawn at the following minimum scales. Larger scales may be needed to clearly present the design. Bar scales shall be shown on each sheet for each scale.

Plan: 1 inch = 50 feet

Profile:

Vertical 1 inch = 10 feet

Horizontal 1 inch = 50 feet

C. The plans will include:

- 1. Title Sheet—A title sheet may be used to present the following required information:
 - a. The proper designation of the project, including nature of project, identifying name or title, city, county, state, etc.
 - b. Index of sheets included in plans.
 - c. A location map adequately showing project location in relation to major streets.
 - d. The project control bench mark shall be an established bench mark and identified as to location and elevation. An assumed elevation datum shall not be used.
 - e. Name, address and telephone number of the consulting engineer and owner.

2. Plan and Profile Sheets—If a title sheet is not used, then the same information required on that sheet should appear on the Plan and Profile Sheet, in addition to the following:

a. Plan:

- (1) A legend of symbols shall be shown which will apply to all sheets.
- (2) North arrow and scale.
- (3) Layout shall include names of subdivisions, block designation, if any, lot designation, or proposed block and lots, existing and proposed street names, and an accurate tie to at least one quarter section corner. An unplatted tract shall have an accurate tie to at least one quarter section corner.
- (4) Location of all existing sewers, properly designated, within or adjacent to the project area.
- (5) Connection point or points to existing facilities and tie to a known point on existing facility (manhole, station, etc.).
- (6) Location of all proposed sewer lines.
- (7) The name and telephone number of each utility, shall be listed and appear on the general layout sheet.
- (8) If more than one sheet is necessary, there shall be an identified match line showing an overlap of each drawing.
- (9) Detailed alignment of the proposed sewer with the manholes designated by station and with deflection angle shown at each manhole and where possible with manhole tied to permanent reference points.
- (10) Existing and known proposed underground utilities, such as, electricity, gas, water, telephone, and storm and sanitary sewers. Each shall be shown in conformance with the records of the owner, or as field located by the utility. Whenever available, the size and type of material used in each utility line shall be indicated.
- (11) Existing and known proposed improvements such as paved streets, curbs and gutters, driveways, culverts, fire hydrants, utility poles, trees, shrubs, fences, walls, and houses. Each shall be identified as to type, size, material, etc., as may be applicable.
- (12) Right-of-way, property, easement, and construction limits shall be shown.
- (13) The channel center line and top of bank of existing and proposed waterways.
- (14) A uniform system of line and manhole designation shall be used.
- (15) Boring information shall be shown if available.
- (16) Station and elevation of service line at easement on right-of-way line.

b. Profile:

- (1) The profile shall show existing grade above center line as a dashed line, proposed finish grades or proposed street grades by solid lines, and shall show the flow line of any drainage channel, either improved or unimproved and either crossed or paralleled. Depth and location of utilities and storm sewers shall be shown where such information is available. Each line shall be properly identified. The proposed sewer shall be shown as double solid lines properly showing the height of the pipe.
- (2) All manholes shall be shown with manhole designation, station, and top of manhole and flow line elevations. Drop manholes shall be designated as such. Flow line elevations shown shall be the flow line of the pipe at the inside face of the manhole. Flow line elevations in and out of each manhole shall be shown. Distance between manholes shall be shown as well as the slope expressed in percent, pipe size and type of material.

- (3) Elevations of the lowest floor surface, shall be shown, and identified, for all existing and/or proposed structures for all building sites to be served by the proposed sewer system.
 - (4) Test borings, if available, shall be shown.
3. Detail Sheets shall include the following information:
- a. Standard Detail Sheets of the City may be used. Schedules which indicate all variable dimensions and elevations covered by standards or "typical" drawings shall be shown on the plans. All design details for nonstandard structures shall be indicated on the plans. A minimum of one plan view and one sectional view shall be shown on the plans for each structure. Additional views may be required if necessary to clearly define the design. A reinforcing bar list is not required. However, the grade, type, size and location of the bars shall be clearly indicated on the plans.
 - b. Drainage Area Map: A drainage area map shall be included and shall contain the following:
 - (1) Ridge line of the area tributary to each principal element of the system.
 - (2) Note the area in acres.
 - (3) The scale shall be no smaller than 1" = 1,000'.
 - (4) State design flow rates using values provided in Section 20.09.002.

Sec. 20.09.015. Sewer extension.

All sanitary sewer system extensions must be placed on an easement dedicated to the City in accordance with provisions provided herein. All sanitary sewer system extensions shall be sized to serve the entire watershed that is intercepted by the extension. It shall be designed to take the natural topography into consideration, and shall be consistent with the Comprehensive Plan adopted by the City. Extensions will only be permitted where access to the City's public water system is available. This shall not prohibit or preclude extensions by the City to achieve development objectives, as determined by the City's Comprehensive Plan or to provide for in-fill development, all at the City's sole discretion.

Sec. 20.09.016. Cost recovery for up-sizing and off-site extensions.

Cost recovery for up-sizing and off-site extensions may be accomplished solely through a Sewer Extension Agreement by and between the developer and the City, which agreement shall be effective only for a period of ten years after final acceptance of the sewer by the City. After expiration of the said ten years, the developer shall no longer be entitled to any cost recovery. The formula for determining the amount of said cost recovery for up-sizing or for an off-site extension shall be as follows:

$$C_2 = [(A_2 \times F_2) \div (A_1 \times F_1)] \times C_1$$

A₁ is the area in acres of total watershed requiring upsizing or extension for service.

A₂ is the area in acres of the portion of the watershed under ownership of the person for whom the calculation is being made.

F₁ is the flow rate per acre in cubic feet per second from A₁ based upon the approved Land Use Plan and the Public Works Manual.

F₂ is the flow rate per acre in cubic feet per second from A₂ based upon the approved Land Use Plan and the Public Works Manual.

C₁ is the total sewer cost for the extension or the up-sizing.

C₂ is the share of the cost to be borne by the owner of the property designated by A₂.

Sec. 20.09.017. City placed mains.

If a sewer main is extended by the City at the City's cost, and the extension provides a benefit to properties without said benefitted properties paying for its pro-rata fair share of the cost of said extension, then the City shall be reimbursed for said pro-rata fair share cost at the time that the benefitted property is developed and connects to the extended sewer main. Cost recovery for mains extended under these provisions shall be considered a fair share reimbursement payment and shall be over and above any required permit fees. The fair share reimbursement

payment shall be determined in the same manner described in Section 20.09.016 above. The fair share reimbursement payment shall be paid in full, including interest, at the time the connection is made.

Sec. 20.09.018. Penalty.

Any person who shall violate, fail, neglect, or refuse to comply with any provision or requirement of this article or of any regulation or requirement made pursuant to it shall be guilty of a misdemeanor, and upon conviction shall be fined not less than \$10.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense.

~~Secs. 20.09.019—20.09.999. Reserved.~~

ARTICLE 10. SEEDING AND SODDING

Sec. 20.10.001. Adoption of APWA Construction and Material Specifications.

The Construction and Material Specifications, titled Section 2400, approved and adopted on October 21, 1981, by the Kansas City Metropolitan Chapter of the APWA is hereby adopted as Article 10 of the Public Works Manual, within the City Code of the City of Independence, Missouri, with the additions, insertions, deletions, and changes, if any, prescribed in the following sections of this article.

Sec. 20.10.002. Additions, insertions, deletions, and changes.

The following numbered subsections and provisions of the approved edition of the APWA Construction and Material Specifications adopted by Section 20.10.001, are hereby amended to read as follows:

Sec. 2401.3(C). Amend to read as follows:

"C. Planting Seeds: The kinds of seeds and the rate of sowing pure live seed shall be as specified on the Plans or in the Special Provisions. Unless directed otherwise by the Engineer, one of the following mixtures shall be used:

1. Type "A" Seed: This seeding mixture will be used where seeding is required in areas of established yards, shoulders and slopes in street right-of-way, and any other areas deemed necessary by the Engineer. The seed mixture will be as follows:

Kind of Seed	Minimum Pure Live Seed (%)	Rate of Pure Live Seed (lbs. per Acre) (Kg per hectare)
Alfa Fescue or Kentucky 31 Fescue (Festuca Elatior) Var. Arundinees	75	25 (28.02)
Rye Grass (Lolium Perenne or L. Multi-florum)	80	25 (28.02)
Kentucky Blue Grass (Poa. Pratensis)	75	20 (22.42)
Creeping Red Fescue (Festuca Rubra)	85	10 (11.21)
TOTAL		80 (89.67)

2. Type "B" Seed: This seeding mixture will be used to seed areas off street rights-of-way that are not maintained.

Kind of Seed	Minimum Pure Live Seed (%)	Rate of Pure Live Seed (lbs. per Acre) (Kg per hectare)
Alfa Fescue or Kentucky 31 Fescue (Festuca Elatior) Var. Arundinees	75	90 (100.89)

Rye Grass (Lolium Perenne or L. Multi-florum)	80	50 (56.04)
TOTAL		140 (156.93)

All seeding work shall be done between the dates of February 1 and April 15 for spring planting or August 15 and October 15 for fall planting. Sowing shall be accomplished by use of an approved mechanical seeder or drill (hand spreader can be used in small areas); making sure that successive seed strips overlap to provide uniform coverage. Seed should be drilled to a depth of ½ inch (1.27 cm)."

Sec. 2402.2(A). Amend to read as follows:

"A. Sod. All areas to be sodded shall be resodded with the type of sod that is existing prior to construction (Zoysia or Bluegrass). The sod shall be densely rooted nursery grown Kentucky Blue Grass or Nursery Grown Meyer 2-52 Zoysia. The sod shall contain a growth of not more than 10 percent of other grasses and clovers, shall be free from all prohibited and noxious weeds, and shall be cut in strips of uniform thickness, the range of acceptable thickness shall be ¾ to 1¼ inch (1.91 to 3.18 cm); each strip containing at least one (1) square yard. Sod shall be cut in strips not less than 12 inches wide (30.5 cm)."

Sec. 2402.3 (C-2). Amend to read as follows:

"2. Maintenance: The sodded area shall be thoroughly watered daily for a period of fifteen days after placing except when thoroughly wetted by rain. Any portion of the sod that is not in good growing condition shall be replaced with fresh live sod."

Sec. 2403.4. Amend to read as follows:

"2403.4 Methods of Measurement: The quantities of accepted work shall be measured or determined as follows:

"A. Seeding:

1. All Public Works Construction other than Sanitary Sewer: Seeding will be measured per acre (hectare) or hundredth part thereof.
2. Sanitary Sewer Construction: Seeding will be measured horizontally in linear feet (decimeter) along the centerline of sewer, regardless of the width of disturbed areas or type of seed used. Seeding will be measured only when centerline of sewer lies in grassed areas to be seeded as shown on the plans. When centerline of sewer lies in areas that are not grassed, such as street paving, driveways, parking areas, gardens, etc., no measurement will be made. Areas that are disturbed which lie outside the Contractor's normal trenching operation areas will not be measured for payment, but shall be restored at the Contractor's expense. Each area measured will be measured either as seeding or sodding, but not as both. When sewer ends in grassed area, measurement will be made only to centerline of manhole.

B. Sodding:

1. All Public Works Construction other than Sanitary Sewer: Sodding will be measured per square yard (square meter) or tenth part thereof.
2. Sanitary Sewer Construction: Sodding will be measured horizontally in linear feet (decimeter) along the centerline of sewer, regardless of width of disturbed areas or type sod used. Sodding will be measured only when centerline of sewer lies in grassed areas to be sodded as shown on the plans. When centerline of sewer lies in areas that are not grassed, such as street paving, driveways, parking areas, gardens, etc., no measurement will be made. Areas that are disturbed which lie outside the Contractor's normal trenching operation areas will not be

measured for payment, but shall be restored at the Contractor's expense. Each area measured will be measured as either seeding or sodding, but not as both. When sewer ends in grassed area, measurement will be made only to centerline of manhole."

Sec. 2403.5. Amend to read as follows:

"2403.5 Basis of Payment: Payment for the accepted work will be made as follows:

A. Seeding:

1. All Public Works Construction Other Than Sanitary Sewer: Payment for seeding will be made by one of the following:
 - a. Contract unit bid price.
 - b. Contract lump sum bid price.
2. Sanitary Sewer Construction: Payment will be made at the contract unit bid price.

B. Sodding:

1. All Public Works Construction Other Than Sanitary Sewer: Payment for sodding will be made by one of the following:
 - a. Contract unit bid price.
 - b. Contract lump sum price.
2. Sanitary Sewer Construction: Payment will be made at the unit bid price."

Sec. 20.10.003. Penalty.

Any person who shall violate, fail, neglect, or refuse to comply with any provision or requirement of this article or of any regulation or requirement made pursuant to it shall be guilty of a misdemeanor, and upon conviction shall be fined not less than \$10.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense.

~~Secs. 20.10.004 — 20.10.999. Reserved.~~

ARTICLE 11. INCIDENTAL CONSTRUCTION

~~Sec. 20.11.001. General.~~

~~This article governs all work, materials and testing required for the construction of incidental construction items specified herein as shown on the plans for the particular location.~~

~~Sec. 20.11.002. Portland cement concrete sidewalks and driveways.~~

- A. ~~This section governs the furnishing of all labor, equipment, tools, material, and the performance of all work necessary to construct or reconstruct sidewalks and driveways.~~
- B. ~~All items of material included in this section shall conform in general to the requirements of Chapter 20, Article 6.~~
 1. ~~Concrete Mix:~~ Concrete shall conform to the requirements of MCIB Mix A-558-1-1 or A-618-1-4. Mix No. WA-610-1-4 may be substituted for Mix No. A-618-1-4.
 2. ~~Reinforcement:~~ Reinforcement shall be as shown on the plans.
- C. ~~The sidewalks or driveways shall be constructed or reconstructed to the configuration, as shown in Article 4 and to the lines and grades indicated on the plans unless otherwise directed by the Engineer. Generally sidewalks and driveways should be constructed after the curbing, if applicable.~~
 1. ~~Removal:~~ Existing sidewalks or driveways shall be totally removed to the nearest contraction or expansion joint. With the approval of the Engineer, the sidewalk or driveway may be sawed provided no

"free section" is left of less than 15 square feet. It is preferred that the section be sawed full depth; however, as a minimum the section shall be sawed one-half the depth of the concrete.

2. *Grading and Subgrade Preparation:* All excavation or embankment required in the grading or subgrade preparation shall be as defined in Article 5, entitled "Grading and Site Preparation" and "Subgrade Preparation", defined in Article 6. The top six inches of the subgrade shall be compacted to a density of at least 95 percent of the maximum density for the material used as determined by ASTM D-698 and within a tolerance of minus three percent and plus two percent of optimum moisture or within the tolerance of the moisture range for the type of material being used as determined by the Engineer.

All the work involved in either adding moisture to or removing moisture from embankment materials to within the allowable limits shall be considered incidental to the completion of the grading operation.

If during construction operations additional fill material is needed beneath sidewalks or driveways it shall be of crushed limestone, placed in maximum lifts of four inches, moistened if necessary, and compacted by mechanical tampers to a density of 95 percent of the maximum.

3. *Forms:* All forms shall be in good condition, clean, and free from imperfections. Each form shall not vary more than one-fourth inch in horizontal or vertical alignment for each ten feet in length.
 - a. *Size:* Forms shall have a height equal to or greater than the depth of the sidewalk or driveway section.
 - b. *Installation:* The forms shall be set true to line and grade, and shall be supported to remain in position while depositing and consolidating the concrete.
 - c. *Preparation:* The forms shall be lubricated and shall be designed to permit their removal without damage to the concrete.

D. Unless directed by the Engineer the joints shall be formed at right angles to the alignment of the sidewalk or driveway, and to the configuration specified by the plans or standards.

1. *Contraction Joint Type 'B':*
 - a. *Sidewalks:* Sidewalk surfaces shall be marked with a transverse contraction joint Type 'B' spaced at a distance equal to the width of the sidewalk. Sidewalks greater than six feet in width shall be divided by longitudinal joints spaced not less than 30 inches nor more than 48 inches with transverse joints spaced to form a square pattern. Edger tool marks shall remain showing.
 - b. *Wide Driveways:* Driveways in excess of 14 feet in width shall have a transverse Contraction Joint Type 'B' located in the center.
2. *Expansion Joint Type 'C':* Expansion joints shall be placed where directed by the plans or Engineer. The expansion joints shall be located to give the sidewalk or driveway an appearance of continuity.
 - a. *Material:* Expansion joints shall be formed by a one piece, one-half inch perforated joint filler cut to the configuration of the correct section. The filler material shall be as specified in Article 6, of the Public Works Manual.
 - b. *Stability:* Expansion joints shall be secured in a manner so they will not be disturbed by depositing and consolidating the concrete.
 - c. *Edging:* The edges of these joints shall be rounded with an edging tool of one-fourth inch radius.
3. *Contraction Joints:* Contraction joints or false joints shall be to a minimum depth of one-fourth the slab thickness.
 - a. *Edging:* Edger marks or "Ribbons" shall be left on sidewalks and driveways.
 - b. *Contraction Joints:* Contraction joints may be sawed with the approval of the Engineer.
 - c. *Joint Sealer:* Joint sealer is not required on contraction joints.

E. Concrete work for sidewalks and driveways shall be placed in accordance with the requirements of MCIB Standard Concrete Specifications. Joints shall be constructed as in Section 20.11.002.D., or as modified by the

plans. Concrete shall be mixed and transported in accordance with Section 501 of the latest edition of the Missouri Standard Specifications for Highway Construction.

1. ~~Concrete Placement:~~ Concrete shall not be allowed to extrude from below the forms. Vibration is not required for sidewalks or driveways.
2. ~~Finishing:~~ After placing and the initial strike off, if the surface of the concrete is sufficiently wet that a ridge is formed at the inside of the edging tool, finishing will cease until the excessive moisture has evaporated. No water, dryer or additional mortar shall be applied to the free surface of the concrete.

After finishing, the surface of the concrete shall be broomed with a fine clean broom to provide an antiskid surface, and the edges and joints retooled.

In all cases the finished sidewalk or driveway shall have a true surface, free from sags, twists, or warps and shall have a uniform color and appearance.
3. ~~Curing:~~ As soon as practical after the concrete is finished it shall be cured with one of the acceptable liquid curing membranes applied according to the manufacturer's directions.

If forms are removed from sidewalks or driveways within a period of 72 hours of placement those surfaces shall also be cured.

Wet burlap, cotton mats, waterproof paper, polyethylene sheeting or earth backfill shall not be acceptable as curing methods for sidewalks or driveways.
4. ~~Protection:~~ The Contractor shall protect the concrete work against damage or defacement of any kind until it has been accepted by the City. Concrete which is damaged or defaced, shall be removed and replaced or repaired to the satisfaction of the Engineer, at the expense of the Contractor.
5. ~~Temperature Limitations:~~ Concrete shall be placed in accordance with requirements of MCIB Sections 10 and 11.

- F. A minimum of 24 hours shall lapse before forms are removed and sidewalks or driveways are backfilled unless otherwise approved by the Engineer.

Backfill shall be accomplished in accordance with Article 5 entitled "Grading and Site Preparation" and Article 6 entitled "paving". The Contractor shall be responsible for the repair of any pavement disturbed by the construction.

- G. The Contractor shall be responsible for the removal of excess dirt, rock, broken concrete, splatters and overspray from the area of the construction within ten days of the date of placement.
- H. Sidewalks or driveways shall have a surface tolerance of one fourth inch in ten feet when checked with a ten foot straightedge.

Sec. 20.11.003. Asphaltic concrete.

- A. This section governs the placement of asphalt sidewalks and driveways.
- B. Asphalt shall not be used in the construction of any approved permanent sidewalk. Asphalt may be used as material for temporary sidewalks if approved in advance by the City Engineer.
- C. Asphalt driveways may be constructed with prior approval of the Engineer in accordance with the provisions of Article 6 "Paving and Curbing", as applicable.

Sec. 20.11.004. Commercial driveway design.

- A. Before approval of the plat or drawing of a commercial driveway the Director of Public Works shall see that combined driveways do not exceed 60 percent of the frontage of the property on which said driveways are to be constructed where it crosses the right of way; that adjacent one-way driveways are separated by a median at least six feet in width with a six inch straight back perimeter curb.
- B. All driveways serving commercial and industrial property, schools, churches, and apartments shall be constructed in accordance with the approved details in Article 4 of this chapter, and shall be a width of 26 to

40 feet for two-way traffic and 15 to 20 feet for one-way traffic, measured where the driveway crosses the property line (R/W line);

Driveways serving predominantly truck and bus traffic should be designed using a 50-foot width with a minimum radii of 30 feet subject to approval of the City Engineer. The radii of all other curb returns shall be a 20-foot minimum.

- C. Driveways located near a street intersection shall be a minimum 40 feet from the intersection of street lines (R/W line) measured along the R/W line. Existing driveways shall be reconstructed to conform with this standard in conjunction with a building permit. Separation between any two driveways on the same property shall be a minimum of 25 feet. Driveways of adjacent property owners may abut the property line and have combined use of the R/W for their approach.
- D. Commercial driveways are to be concrete, however, driveways located on local streets having no existing curbs may be asphaltic concrete. Thickness shall be in accordance with the typical section shown in Article 4 of this chapter.
- E. Unless an approach is common to adjacent property owners, it shall not extend beyond the property line extension to the street.

Sec. 20.11.005. Residential drive design.

- A. All residential driveways shall be constructed in accordance with the approved details in Article 4 of this chapter. Driveway approaches on streets with existing curb and gutter sections shall be portland cement concrete or an approved equal. Driveways shall meet the requirements of Chapter 20, Article 6. Driveway approaches on non-curb and gutter streets may be constructed of either portland cement concrete or asphaltic concrete meeting the requirements of Article 6 of this chapter. Driveway approaches on rural streets may be constructed of aggregate, subject to approval of the Engineer. If aggregate is used, the maximum slope of the driveway shall be 15 percent.
- B. Driveways of adjacent property owners may abut the property line and have combined use of the right-of-way for their approach. Unless an approach is common to adjacent property owners, it shall not extend beyond the property line extension to the street.
- C. Driveway approaches for single-family residential structures shall have a minimum width of ten feet and a maximum width of 26 feet at the right-of-way line.
- D. Except for culs-de-sac, driveway approach width at the right-of-way line shall not exceed 60 percent of the frontage of the property on which said driveways are to be constructed where it crosses the right-of-way.
- E. On non-curbed streets, adequate stormwater provisions shall be constructed in accordance with Article 2 of this chapter.

Sec. 20.11.006. Parking lots.

- A. All parking lots shall be constructed with either an asphaltic concrete or portland cement concrete surface. Surface requirements for temporary parking for construction access for a time not to exceed 180 calendar days may be waived subject to the approval of the Engineer. Approved methods of erosion and dust control shall be required.
- B. Storm water detention shall be provided in accordance with Article 2 when the parking lot area exceeds 1,500 square feet.
- C. The surface shall be constructed of either a minimum two-inch asphaltic concrete or four-inch portland cement concrete.
- D. Parking lots shall be designed to meet applicable provisions of Chapter 14 of the City Code.
- E. Parking lots shall be constructed so that parked vehicles shall not project over the public right-of-way.

Sec. 20.11.008. Guard rail.

- A. This section governs the furnishing of all labor, equipment, tools, materials and the performance of all work necessary to construct guard rail.
- B. All placement and materials shall conform to the applicable provisions of the latest revision of Section 606 of the Missouri Standard Specifications for Highway Construction. Guard rails shall be placed in accordance with the approved detail sheet shown in Article 4.
- C. Unless approved otherwise by the Engineer, guard rails shall be required at the following locations:
 - 1. Bridge ends.
 - 2. Medians containing non-break away obstacles.
 - 3. 2:1 slope exceeding 12 foot height.
 - 4. 3:1 slope exceeding 20 foot height.
- D. Guard rails shall be installed one foot inside the right of way line, unless directed otherwise by the Engineer.

Sec. 20.11.009. Rock blanket.

- A. This section governs the construction of a protecting blanket of rock or broken concrete on slopes, channel banks or stream banks.
- B. The material for a rock blanket shall be durable stone or broken concrete containing a combined total of not more than ten percent of earth, sand, shale and non-durable rock. It is preferable that the material contain a large percentage of pieces as large as the thickness of the blanket will permit, with enough smaller pieces of various sizes to fill the larger voids. Acceptance of quality and size of material may be made by visual inspection at the job site.
 - 1. *Type 1:* For Type 1 Rock Blanket, at least 40 percent of the mass shall be of pieces having a volume of one cubic foot (0.0283 cubic meter) or more.
 - 2. *Type 2:* For Type 2 Rock Blanket, at least 60 percent of the mass shall be of pieces having a volume of one cubic foot (0.283 cubic meter) or more.
- C. A trench at the toe of the slope shall be excavated to the elevation as shown on the plans or to a minimum of two feet when not shown. The slopes shall conform to the proper cross section and be compacted to a uniform density as required for adjacent material. The rock or broken concrete shall be placed on the slope, to the prescribed thickness, elevation and extent, and shall be manipulated so that the flat sides are in contact, thereby eliminating large voids. The outside of the blanket shall present an appearance free from segregation and with a proportionate amount of the larger pieces showing.

Rock Blanket shall be placed at storm sewers as shown on Standard Sheet G as approved in Article 4.
- D. Unless specified otherwise herein, or unless approved otherwise by the Engineer, all rock blankets shall be a minimum of 15 inches thick.

Sec. 20.11.010. Fence.

- A. This section governs the furnishing of all labor, equipment, tools, materials and the performance of all work necessary to construct fence.
- B. All placement and materials shall conform to applicable provisions of the latest revision of Section 607 of the Missouri Standard Specifications for Highway Construction, except as modified herein or approved by the Engineer.
- C. Fence shall be placed at locations shown on the approved plans and in accordance with the approved detail sheet shown in Article 4.
- D. Except at athletic fields, or as otherwise approved by the Engineer, all fence fabric shall be 11 gauge.

Sec. 20.11.011. Retaining walls.

- A. This section governs the furnishing of all labor, equipment, tools, materials and the performance of all work necessary to construct retaining walls.
- B. Retaining walls shall be constructed of either reinforced portland cement concrete or mortar rubble masonry, unless otherwise approved by the Engineer.
- C. Portland cement concrete walls shall be constructed in accordance with standard details in Article 4 of Chapter 20, or plans approved by the Engineer. The contractor constructing a portland cement concrete retaining wall will be required to furnish all plant, labor, equipment and materials, and perform operations necessary for the construction.
- D. Any contractor constructing a retaining wall of mortar rubble masonry will be required to furnish all plant, labor, equipment and materials, and perform operations necessary for the construction of the masonry wall as shown on the plans and as specified herein.
 - 1. Mortar rubble masonry shall be coursed and shall consist of roughly squared and dressed stone laid in cement mortar. Mortar shall consist of one part cement and three parts sand. The stone shall be kept free from dirt, oil or other injurious materials which may prevent proper adhesion of the mortar. Individual stones shall have a thickness and a width of the stones in the existing wall and shall be the approximate same coloration of the existing stone and mortar. No stones, except headers, shall have a length of less than one and one half times their width.
 - 2. Headers in walls two feet or less in thickness shall extend entirely through the wall.
 - 3. The stones shall be roughly squared on joints, beds and faces. Selected stone, roughly squared and pitched to line, shall be used at all angles and ends of wall. All shaping or dressing of stone shall be done before the stone is laid in the wall. No dressing or hammering which will loosen the stone will be permitted after it is placed.
 - 4. The existing concrete cap shall be removed so as to expose the existing stone and joints for adherence to the new stone and mortar.
 - 5. Stone masonry shall not be constructed in freezing weather or when the stone contains frost, except with written permission of the Engineer and subject to such conditions as may be required.
 - 6. The masonry shall be laid to line and in courses along the slope of the existing wall. Each stone shall be cleaned and thoroughly saturated with water before being set and the bed which is to receive it shall be cleaned and well moistened. All stones shall be well bedded in freshly made mortar. The mortar joints shall be full and the stones carefully settled in place before the mortar has set. No spalls will be permitted in the beds. Joints and beds will have an average thickness of not more than one inch.
 - 7. The face joints shall be pointed properly before the mortar becomes set whenever possible. Joints which cannot be so pointed shall be prepared for pointing by raking them out to a depth of two inches before the mortar has set. The face surfaces of the stone shall not be smeared with the mortar forced out of the joints or that used for pointing.
 - 8. The vertical joints in each course shall break joints with those in adjoining courses at least six inches. In no case shall a vertical joint be located so as to occur directly above or below a header.
 - 9. In case any stone is moved, or joint broken, the stone shall be taken up, the mortar thoroughly cleaned from bed and joints, and the stone reset in fresh mortar.
 - 10. Joints not pointed at the time the stone is laid shall be thoroughly wet with clean water and filled with mortar. The mortar shall be well driven into the joints and finished with an approved pointing tool. The wall shall be kept wet while pointing is being done and in hot, dry weather the pointed masonry shall be protected from the sun and kept wet for a period of at least three days after completion.

Sec. 20.11.012. Underdrains.

- A. This section governs the furnishing of all labor, equipment, tools, materials, and the performance of all work necessary to construct underdrains.

- B. All placement and materials shall conform to applicable provisions of the latest revision of Section 605 of the Missouri Standard Specifications for Highway Construction for Class A Underdrains, except as modified herein or approved by the Engineer.
- C. Underdrains shall be placed at locations shown on the approved plans or as directed by the Engineer and in accordance with the approved detail chart shown in Article 4.

Sec. 20.11.013. Water service.

- A. This section governs the furnishing of all labor, equipment, tools, materials, and the performance of all necessary work to construct water service facilities.
- B. Adjustment of water service lines, valves and meters shall be as shown on the contract drawings or directed by the Engineer.
- C. Pipe shall conform to the latest federal specifications for Type K flexible copper tubing. Fittings shall be brass flared compression fittings.
- D. Existing piping between the existing shoulder line and limits of the grading shall be carefully exposed and raised or lowered as directed by the Engineer to clear construction by this contract. Existing copper piping material may be reused, except new pipe and fittings shall be installed as required to lengthen the service line or replace existing iron pipe or damaged services. In cases where street construction is being performed, any service found to be iron (galvanized) pipe under the pavement will be replaced from the City's water main to the City's right-of-way line. A new cut-off valve will be installed at a point on public right-of-way one foot from the property line.
- E. Relocate meter and meter vault or tile to the indicated position outside the right-of-way line. Existing meter tile and casting, meeting Water Department specifications, may be reused if in undamaged condition. Replace with new material if damaged.
- F. All adjusted or relocated water service lines shall be pressure tested at line pressure before backfilling the trench. Repair all leaks and retest service.
- G. Notify the property owner or tenant 24 hours before beginning work on any planned water service line or meter adjustment.
- H. The Contractor shall relocate or adjust the top elevation of all water service cut-off valves as required, or as directed by the Engineer. All such valves shall be located on the existing service line at a point one foot behind the new curb, or if no curb is to be constructed, at a point on public right-of-way one foot from the property line.
- I. All excavation, trenching and backfill specified herein shall be in accordance with Article 3 of the Public Works Manual.
- J. All service line, meter well, or cut-off valve adjustments or replacements shall be in compliance with the most current Rules and Regulations of the Water Department.

Sec. 20.11.014. Measurements and payments.

- A. This section governs the method of measurement and the basis of payment for furnishing all labor, equipment, tools, and materials and for the performance of all related work necessary to complete any construction specified in this article.
- B. Unless specifically altered by the special provisions, the methods of measurement and payment shall be as specified herein, and as listed in the proposal.
- C. There shall be no measurements or separate payment for any item of work not specifically identified and listed in the proposal and all costs pertaining thereto shall be included in the contract unit prices for other items which are listed in the proposal.
- D. The quantities of accepted work shall be measured or determined as follows:
 - 1. Portland cement and temporary asphalt sidewalks will be measured to the nearest one-tenth square foot and paid to the nearest square foot.

2. ~~Portland cement and asphalt driveways will be measured to the nearest one tenth square foot and paid to the nearest square yard.~~
3. ~~Untreated aggregate driveways shall be measured through the load tickets for the actual amount used and paid to the nearest ton.~~
4. ~~Parking lots will be measured to the nearest one tenth square foot and paid to the nearest square yard.~~
5. ~~Traffic control shall be measured and paid per each as listed in the proposal.~~
6. ~~Guard rail will be measured to the nearest one half linear foot for each increment along a line passing through the center line of each post, and totaled to the nearest linear foot for the sum of the increments on the project. The length will be measured separately for each type from the center of the end post to the center of end post, excluding bridge anchor sections and terminal sections.~~
 - a. ~~The accepted quantities of guard rail, terminal sections, and bridge anchor sections complete in place, will be paid for at the unit price for each of the pay items included in the contract. No direct payment will be made for end sections or buffer ends.~~
7. ~~Rock blanket shall be measured to the nearest one tenth of a square foot and paid to the nearest square yard.~~
8. ~~Fence shall be measured to the nearest one tenth of a foot and paid to the nearest foot.~~
9. ~~Portland cement concrete retaining walls shall be measured to the nearest one tenth of a cubic foot and paid to the nearest one tenth of a cubic yard. Mortar rubble masonry walls will be measured to the nearest one tenth square foot of face area, excluding footing, and paid to the nearest square foot.~~
10. ~~Underdrains shall be measured to the nearest one tenth of a foot of pipe and paid to the nearest foot of pipe.~~
11. ~~Water service lines shall be measured to the nearest one tenth of a foot and paid to the nearest foot. Meter and valve adjustments shall be measured and paid per each.~~

Sec. 20.11.015. Penalty.

Any person who shall violate, fail, neglect, or refuse to comply with any provision or requirement of this article or of any regulation or requirement made pursuant to it shall be guilty of a misdemeanor, and upon conviction shall be fined not less than \$10.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense.

~~Sees. 20.11.016 — 20.11.999. Reserved.~~

ARTICLE ~~12~~ 2. SPECIAL ASSESSMENT BENEFIT DISTRICT

Sec. 20.~~1202~~ 202.001. Policies and procedures.

This article governs the specific procedures for establishment of Special Assessment Benefit Districts and explains the process from its initiation to completion, as authorized by Article 11 of the Independence City Charter. Public works projects considered for Special Assessment Benefit Districts are sanitary sewers, sidewalks, storm sewers, streets and water lines.

Sec. 20.~~1202~~ 202.002. General.

A Special Assessment Benefit District is a geographical area in which a public improvement project is paid for by the benefitted property owners within the area. The City of Independence has the authority to pay for public improvements out of an available fund and be reimbursed by special assessments on benefitted real property.

Sec. 20.~~1202~~ 202.003. Initiation.

When a majority of the property owners of a contiguous area desire a specific public works project, they can petition the City for a Special Assessment Benefit District. A sample copy of a petition for the establishment of a Special Assessment Benefit District can be secured from the City Clerk, ~~Public Works~~ or ~~Water~~ **Municipal Services** Departments. Upon receipt of the petition, the Director of ~~Public Works~~ (or the ~~Water Department~~ Director) **Municipal Services** establishes the district boundary, and determines if the petitioners represent a majority of the

benefitted property owners of record within the service area, whose addresses are known. If this majority is established, a resolution of necessity is prepared. A copy of the petition, a property owner list and a sketch of the service area is attached to the resolution of necessity and submitted to the City Council for consideration. The area described in the Resolution represents the total area to be served by the Special Assessment Benefit District project. All ownership contained within the boundary will be a part of the benefit district, and will be subject to the reimbursement assessment.

Sec. 20.1202.004. Resolution of necessity.

The resolution of necessity defines the proposed district boundary to be assessed, the proposed method of payment, the date of the hearing of necessity and the proposed method of apportioning the cost among the individual parcels of land in the district. The resolution of necessity is published in full, within ten days after passage by the City Council, in the Independence Examiner. A copy of the resolution and notices of the hearing of necessity are mailed to all persons, whose addresses are known, who are shown by property tax records at the time of passage of the resolution to be owners of property in the proposed Special Assessment Benefit District.

Sec. 20.1202.005. Hearing of necessity.

The hearing of necessity is held no earlier than seven days after publication and mailing of the resolution of necessity and notice of the hearing. The hearing is conducted by the Director of ~~Public Works (or the Water Department Director)~~ **Municipal Services**, who reports recommendations to the City Council. The nature of the project is explained at the hearing, along with the assessment procedure.

The recommendation to the City Council is made based upon project feasibility, need, compliance with master plan for City improvements, and a vote of the benefitted property owners at the hearing. Absentee votes must be signed and submitted to the City Clerk within ten days following the Hearing of Necessity. Absentee voting is not solicited. Votes not received are considered negative. In general, a failure to receive a majority of favorable votes from the benefitted property owners will defeat the district. A record of the voting will be submitted to the City Council along with the recommendation of the Department. If the City Council decides to proceed with the work, it shall adopt a resolution of intent to proceed.

Sec. 20.1202.006. Resolution of intent.

The resolution of intent will set forth the general nature of the work or improvement, the method of payment, the boundaries of the district within which property is to be assessed, and the method of apportioning the cost among the individual parcels of land within the district. It will order the preparation of detailed plans and specifications, an estimate of the total cost of the project, and the amount which would be assessed against each parcel of land in the district. No error or inaccuracy in such estimate will affect the validity of subsequent proceedings.

The resolution of intent may also state the date for the hearing of intent, if the cost estimate and assessment information is known. The cost estimate and notice of the hearing of intent will be published in the Independence Examiner, and a copy of the estimate and a notice of the hearing will be mailed to all owners of record, whose addresses are known, of real property in the benefit district at the time of passage of the resolution of necessity. An individual statement of the amount estimated to be charged against the individual property may be mailed. Failure of a property owner to receive the estimate and the notice will not affect the validity of the proceedings.

Sec. 20.1202.007. Hearing of intent.

The hearing of intent will be held no earlier than seven days after publication of notice and mailing. The Director of ~~Public Works (or Water Department Director)~~ **Municipal Services** will hold a hearing of intent to discuss the nature of the project, the individual assessments, the reimbursement procedures, and the detailed plans for the improvements. A vote of the property owners in the Special Assessment Benefit District will be taken at the hearing to determine if the work is to go forward. Absentee votes must be signed and submitted to the City Clerk within ten days following the hearing of intent. Absentee voting is not solicited. A report is made to the City Council, with recommendations concerning the project. Generally, the district is terminated unless a majority of the benefitted property owners vote in favor of proceeding. If the City Council decides to proceed, and the improvements are to be made by outside contractor, an Ordinance will be passed directing the advertisement of bids for the public work. If the work is to be done by City staff, the Ordinance directs the City forces to proceed with the work.

Sec. 20.4202.008. Levy and assessment of costs.

Upon completion and acceptance of the Special Assessment Benefit District Project, the entire cost of the project is computed, as it is to be charged against the individual parcels of land in the Benefit District. These assessed costs are submitted to the City Council as an Ordinance levying and assessing the costs to be reimbursed by special assessments against the individual parcels of land in the Benefit District, fixing the amount to be charged against each parcel, and directing the issuance of special tax bills.

Sec. 20.4202.009. Special tax bills.

- A. Each tax bill will contain a brief general statement of the facts authorizing its issuance or the purpose for which it is issued, a description of the land against which it is issued, the name of the contractor or other to who it is issued, the rate of interest which it bears, and when it begins to bear interest; and will state that it is a lien against the land therein described, and give the time that the lien continues. It need not give the name of the owner of the land against which it is issued.
- B. All special tax bills will become due and payable 60 days after the date of issuance, except in the case of tax bills payable in installments as herein provided.
- C. The cost of constructing or acquiring any public work or improvement which is to be charged to a benefitted parcel of land, for which a special tax bill is issued, may be paid in ten annual installments, provided the owner of the property described in the special tax bill files a written request with the Director of Finance within 30 days after the issuance of the special tax bill requesting that their tax bill or bills be made payable in installments. In such case, the tax bill or bills will be payable in annual installments as follows: One-tenth in one year, one-tenth in two years, one-tenth in three years, one-tenth in four years, one-tenth in five years, one-tenth in six years, one-tenth in seven years, one-tenth in eight years, one-tenth in nine years, and one-tenth in ten years after the date of their issue.
- D. Special tax bills will provide that if any annual installment or the interest thereon is not paid when due then all of the remaining installments will, at the option of the holder of the tax bill, become immediately due and payable. The owner or anyone with an interest in the property assessed with an installment tax bill will have the privilege of paying the installments early by paying the total amount of the principal due plus accrued interest to the date of the principal payment.
- E. Every special tax bill and all lawful interest and charges thereon, will be a lien against the parcel of land described therein for a period of ten years after date of issue, unless sooner paid, except in the case of special tax bills payable in installments, the lien of which shall not expire until one year after the date of maturity of the last installment, and except in any case where it becomes necessary to bring a suit to enforce the lien of any special tax bill, the lien of which will continue until the expiration of the litigation.
- F. Special tax bills may bear interest not to exceed the rate on ten-year United States Treasury notes as established at the most recent auction, payable annually, from 60 days after the date of issue until paid.

Sec. 20.4202.010. Alternate provisions.

Notwithstanding the earlier provisions to the contrary, if the City Council finds that there exists a public health, safety or community welfare need for a public works project in a given definable, contiguous area and a petition from a majority of the property owners in that area has not been received, or if during the process of hearings regarding a benefit district it is determined that a majority of the benefitted property owners no longer favor proceeding, the City Council may proceed without having that majority. Where the City Council proceeds with said project and the project is estimated to cost less than \$100,000.00, the cost will be apportioned between the City and the property owners in the following manner:

Labor and Equipment - paid 100% by the City.

Materials - paid 100% by the property owners.

Each resolution and ordinance involved in the process will specifically state the majority is lacking, whenever that condition does exist, and will specifically state the reason for proceeding without the majority support, but otherwise the previously detailed provisions will apply.

Secs. 20.4202.011—20.4202.999. Reserved.

ARTICLE 13. CONTRACT GENERAL PROVISIONS

Sec. 20.13.001. General.

This article governs general provisions for all contracts entered into between the City of Independence (also referred to as Owner) and contractors for the construction of public works contracts bid by the City of Independence, except those contracts or agreements excluded by the Purchasing Manual and Professional Services agreements.

Sec. 20.13.002. Contract documents.

The contract documents, sometimes referred to as, "the contract", include the invitation to bid, the instructions to bidders, the contract agreement, the payment, performance and/or maintenance bond, the specifications and special provisions, supplementary provisions or addenda as may be issued, the proposal and the plans or contract drawings. The specifications referred to herein are the Public Works Manual, Chapter 20 of the City Code. All the contract documents are intended to be cooperative and to describe and provide for a complete work. A requirement occurring in one is as binding as though occurring in all. Should there be any lack of accord in the various documents, the special provisions prevail over the specifications and the specifications prevail over the plans.

Sec. 20.13.003. General intent.

The general intent of the contract document and provisions thereof is that the Contractor shall, for the compensation set forth, furnish all plant, equipment, tools, labor, materials, superintendence, all things and services, assurances and guarantees, assumptions of risk and responsibilities; shall begin promptly and proceed expeditiously and continuously without cessation or shutdown of work unless specifically approved in writing by the Owner; shall construct, complete and ready for its intended purposes, within accordance with the contract documents; that the prices proposed and bid by the Contractor and accepted by the Owner are agreed to be fair, full and complete compensation; and that time is of the essence in the contract fulfillment.

Sec. 20.13.004. Contractor's responsibility.

- A. The Contractor explicitly understands and agrees that the Owner is in no way responsible for the cost to the Contractor of the work, nor for the cost of the risks involved in executing the work, and that the payments herein provided include compensation for all risks as well as for all completed construction. It is expressly understood that the Contractor is in all respects an independent contractor for this work and is in no respect an agent, servant or employee of the Owner. The Contractor specifically represents that in performing work covered by this agreement he or she is the sole employer of all labor to be furnished in the performance of this work and that, within the meaning of all federal and state unemployment compensation, insurance or other laws and all State Worker's Compensation Acts, the contractor's employees and the employees of all subcontractors are not employees of the Owner for any purpose whatsoever; also that the Contractor accepts exclusive liability for all contributions, taxes, interest and penalties necessarily paid by the Owner under unemployment compensation, insurance or other laws on account of all persons employed by the Contractor or any subcontractors hereunder, and the Contractor hereby agrees to reimburse the Owner for all contributions, taxes, interest, penalties, if any, necessarily paid by the Owner under unemployment compensation, insurance or other laws covering employees of the Contractor or any subcontractors.
- B. The Contractor agrees to pay in full for all furnished materials and for all employed labor for the work or any part thereof, and to save the Owner free and harmless from any lien for work or labor performed, or materials or supplies furnished in the performance of the work under this agreement, and from every claim, demand or lien arising from or growing out of any act or thing done or suffered by the contractor or any agent, servants or subcontractors, and any employees in, about or connected with the construction of the work aforesaid. The Contractor agrees to pay and discharge all bills and claims against the Contractor in any way incurred in connection with the work herein provided for; it being intended hereby to cover the payment of all items, whatsoever their nature, in addition to items which entitle the claimant to a lien upon any property of said Owner by virtue of the laws of the State of Missouri.
- C. The Contractor shall require any subcontractors deemed a transient employer as defined by State law to show proof of having filed a financial assurance instrument with the State Director of Revenue and to show proof that the subcontractor holds a current valid certificate of insurance for worker's compensation coverage in Missouri prior to the subcontractor performing any work under the Contract. If required by the State Director of Revenue or the State Director of the Division of Worker's Compensation, the Contractor will withhold all or any part of payment to the subcontractor to satisfy State law.

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- D. ~~The Contractor agrees to comply in all respects with the requirements of law relating to furnishing reports and statements, or as may be reasonably required by the Owner.~~
- E. ~~It shall be the responsibility of the Contractor to examine the site of the work to determine the amount of work to be done in connection with the construction herein specified, the quantities of material required, and the construction equipment and labor necessary for the performance of the contract. By submission of a proposal for this work, the Contractor represents that he or she has investigated the character of the work and conditions which may be encountered, and the quantities and types of related work not covered by unit prices, and agrees that the data furnished herein is merely informative and represents the best information available at the time of advertising for bids. The Contractor understands that such information or data is furnished to the bidder without guarantee of its accuracy and that variations from the indicated amounts or types of work, other than that covered by contract unit prices, required to complete the contract will not entitle the Owner to any credits or the Contractor to any extra payment.~~

~~Sec. 20.13.005. Applicable codes and standards.~~

- A. ~~Reference to standard specifications of any technical society, organization or association, or to codes of local or state authorities, shall mean the latest such standard, code, specification or tentative specification adopted and published at the date of taking of bids, unless specifically otherwise stated. Applicable codes and standards referred to in these specifications shall establish minimum requirements for equipment, materials and construction and shall be superseded by more stringent requirements of drawings and specifications when and where they occur.~~
- B. ~~All construction methods and tools shall meet all State of Missouri safety requirements and comply with commonly accepted standards for safety and health of personnel engaged in construction work.~~

~~Sec. 20.13.006. Compliance with laws, permits, licenses and taxes.~~

- A. ~~The Contractor shall conform to and comply with all applicable laws, bylaws, regulations and ordinances with regard to all and every action and operation, and shall require conformity and compliance of all subcontractors and employees in such a manner as to save the Owner harmless. The Contractor shall secure and be financially responsible for all permits, licenses, approvals, acceptances, etc., relative to the conduct of all work and shall give all notices necessary to the due and lawful prosecution of the work. Fees for required City permits for work within the construction limits will be waived.~~
- B. ~~The City is exempt from sales tax. This includes purchases by contractors for City projects. The City will provide a certificate to contractors for their use in obtaining the sales tax exemption. Contractors are to prepare their bids for City projects without including sales tax.~~

~~Sec. 20.13.007. Patents.~~

~~All fees or royalties for any patented article or operation of construction used in this work or any part thereof, or any materials, tools, implements, machinery, fixtures, or anything used by the Contractor, shall be included in the price stipulated in the contract for the work and the Contractor shall protect and hold harmless the Owner against all demands for such fees, royalties and claims.~~

~~Sec. 20.13.008. Supervision and inspection.~~

- A. ~~The work herein considered is to be constructed in accordance with the contract documents. Wherever the words "directed, permitted, approved, acceptable, satisfactory," or words or phrases of similar import occur in the contract documents, they shall be understood to be functions of the Engineer and to be exercised at the Engineer's discretion.~~
- B. ~~Methods of construction and procedure shall be of the Contractor's own selection, provided no requirement of the contract documents is violated and the work is completed within the time allowed. Approval of the Engineer of any construction device or method, or absence of disapproval, shall not relieve the Contractor of full responsibility for any failure thereof and shall not connote and is not intended to connote that the Owner will direct the manner in which the work is to be performed under the contract.~~
- C. ~~All materials and every process of manufacture and construction shall be subject to inspection at all times and the Engineer or any representative shall have free access to all operations. The Contractor shall provide necessary facilities for inspecting workmanship and testing of materials, and the Engineer shall have the right~~

to select suitable samples of materials for testing and examination, which the Contractor shall supply without charge. In case such samples must be shipped to some other point for inspection or testing, the Contractor shall box or crate samples as necessary and shall deliver them at points designated for shipment, without charge. Omission of inspection shall not relieve the Contractor of any obligation to produce the work required by plans and specifications.

- D. Rejected materials shall be removed promptly from the vicinity of the work and the Contractor shall promptly remove, reconstruct, replace and make good as may be directed, without charge, any defective work. If in the judgment of the Engineer, the defective work would perform within an allowable tolerance, the Contractor may be given the choice of receiving reduced payment for the work or removing and replacing the defective work. Oversight or error of judgment of inspectors, or previous acceptance, shall not relieve the Contractor from the obligation to make good defects whenever discovered. If the Contractor does not make corrections of such condemned work and remove rejected materials within a reasonable time, as fixed by written notice, the Owner may make removals and corrections and charge the expense to the Contractor.
- E. The Contractor shall furnish to the Engineer any information concerning the nature or source of any material or equipment or part thereof which the Contractor proposes to use. Tests may be conducted where, in the opinion of the Owner or Engineer, such are necessary. Where the Contractor desires to propose for use in the work any material or product as an alternative or equivalent to a material or product specified herein, the Contractor will be required to submit samples to a testing bureau designated by the Engineer, and shall pay the cost of such testing and analysis as may be required to determine the suitability of such materials and products.

Sec. 20.13.009. Personal liabilities.

In carrying out any of the provisions of a contract or in exercising any power or authority granted to them thereby, there shall be no personal liability upon any member, agent or representative of the Owner. No act or failure to act on the part of the Engineer or any agent of the Owner, payment for the work in whole or in part, extension of time or possession taken of the work, shall operate as a waiver of any right to damages therein provided for; nor shall waiver or breach of contract be held to be a waiver of any other or subsequent breach.

Sec. 20.13.010. Subletting or assigning contract.

- A. The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of the contract or contracts or any portion thereof, or of the Contractor's right, title or interest therein, without written consent of the Engineer. Request for permission to sublet, assign or otherwise dispose of any portion of the contract shall be in writing and shall be accompanied by evidence that the organization which will perform the work is particularly experienced and equipped for such work.

- 1. In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but the Contractor shall perform work amounting to not less than 50 percent of the total contract cost, except that any items designated by the Engineer as specialty items so performed by subcontract may be deducted from the total contract cost before computing the amount of work required to be performed by the Contractor.

The value of the work sublet will be determined by multiplying the number of units of any contract item sublet by the unit price as set forth in the original contract, or by a price agreed to by the Engineer where no unit price is included in the contract for the work sublet. Approval of the subcontract is in no way approval of the unit prices in the subcontract. The subcontractor shall perform the work described in the subcontract agreement. The Contractor shall furnish the Owner a signed copy of the subcontract on request.

- B. No subcontracts or transfer of contract shall in any case release the Contractor of his or her liability under the contract and bonds.

Sec. 20.13.011. Cooperation with others.

The Contractor and subcontractors will be expected to cooperate with forces of the City, utility companies or other contractors who may be working in the area. No delay of this contract work, due to avoidable conflicts, will be allowed. The Contractor shall, as far as possible, arrange work schedules and dispose of materials so as not to interfere with the operations of other contractors or others engaged upon the project or nearby. The Contractor shall

also join his or her work to that of others in a proper manner, in accordance with the spirit and intent of the contract documents and perform his or her work in proper sequence in relation to that of other contracts.

Sec. 20.13.012. Plans (contract drawings).

- A. Certain plans prepared on behalf of the Owner, and elsewhere described and named to accompany and supplement these provisions, constitute a part of the contract documents. Such plans are agreed to be constructively attached to the contract documents, although convenience may preclude physical attachment.
- B. The Owner shall have the right to modify details of these plans to provide final, or checked, plans in lieu of any preliminary or unchecked plans, as the work proceeds, all of which shall be considered as plans accompanying the contract documents. The Contractor shall not take advantage of any errors or discrepancies discovered in the plans, but shall report same, and the Engineer will make or approve the necessary corrections.
- C. The Contractor will be provided, at no cost, a maximum of ten sets of contract documents. Additional sets of these documents will be supplied at the cost of printing, materials and delivery.

Sec. 20.13.013. Notice to proceed.

- A. Upon receipt of contract documents fully executed by the Owner, the Contractor shall immediately proceed with activities pertaining to the work, such as specified coordination submittals and required conferences. The Contractor shall not move onto the site until the Owner has issued a written notice to proceed.
- B. The notice to proceed will be issued upon completion of (a) receipt of acceptable copies of insurance policies and certificates, (b) acceptance of specified coordination submittals, i.e., Program of Construction, Schedule of Values, etc., and (c) the conclusion of initial coordination conferences. The date of notice to proceed shall be that on which the Contractor may move onto the site, unless otherwise set forth in the said notice, which date will not be more than 30 days after the date of contract, unless Owner and Contractor agree upon a longer time. The completion time of contract shall be the number of calendar days stated in the contract agreement, beginning with the date of notice to proceed, or date stated therein, exclusive of the period between December 15 and March 15.

Sec. 20.13.014. Program of construction and progress control.

- A. Within ten days after signing the Contract Agreement, the Contractor shall furnish the Engineer a graphic construction schedule and progress report form showing construction schedule on the form, for approval. The Contract shall be broken down into major phases or items of work, with beginning and completion dates for each phase or item shown. If the scope of the work involved so indicates, or at the request of the Engineer, a supplementary outline shall be submitted to show the proposed operations and the order of completion of the various parts in sufficient detail to demonstrate to the Engineer the adequacy of the program to complete the construction within the time provided.
- B. The Engineer will review the schedule submitted for approval and promptly request any revisions or changes required so the Contractor's work will not delay or interfere with other crews that might be working in the area, so far as may be known. The Engineer will furnish the Contractor three prints of the approved schedule without prior approval from the Engineer in writing. No payment shall be made to the Contractor on any estimate until such a program of construction has been submitted and approved.
- C. Should it become evident at any time during the construction that operations will, or may, fall behind the schedule of the approved program of construction, the Contractor shall promptly submit revised written schedules setting out changes in operations, methods, equipment, added amount of labor or of working shifts, night work, etc., by which lost time shall be made up and shall confer with the Engineer until an approved modification of the original program is secured. Should operations actually fall behind to an extent that the completion of the work within the fixed time would appear doubtful, the Owner may request the Contractor to add equipment and construction forces or to increase the working hours per week. No payments on any estimates shall be made after such a request is made until an approved modification of the program has been provided by the Contractor. Execution of the work according to the accepted program of construction, or approved modifications thereof shall be an obligation of the Contractor at all times during the life of the contract.

Sec. 20.13.015. Working drawings and information.

- A. All materials and equipment to be supplied and installed under any contract are subject to approval by the Engineer. For this purpose, the Contractor shall provide the Engineer with four copies of shop and other supplemental drawings. The Contractor is required to present such drawings and other information in an orderly manner and each delivery of such material to the Engineer shall be accompanied by a letter of transmittal listing the material transmitted.
 - 1. The ordering or installation of any of the above described equipment or material prior to the return to the Contractor of drawings approved by the Engineer will be done at the risk of the Contractor and same may be subject to removal and replacement. Working drawings shall not be issued for use until after approval with the date of approval noted on the tracing. No work shall be done until the drawings have been so approved.
- B. All working drawings shall be submitted to the Engineer. Two sets will be returned showing corrections required, if any. Revised copies shall be resubmitted after correction until approved. The Owner shall not be responsible for errors on working drawings, even though approved, or for quantities on bills of material which may be included. Any failure of the Engineer to correct errors on working drawings, or approval or implied approval thereof, shall not relieve the Contractor of the full responsibility for the safe and adequate execution of the work in accordance with the plans and specifications.
- C. For reinforcing steel, working drawings shall include whatever diagrams or drawings are necessary to supplement the reinforcing details of the plans, including any special features or variations from details as shown or to serve the convenience of the Contractor; order bills of bars shall include diagrams for the bonding of each bar not to be used straight.

Sec. 20.13.016. Construction procedure.

- A. The Engineer and the Contractor shall discuss and follow mutually agreed methods and procedures. Practices shall be as established in the industry and best modern methods in accordance with the contract requirements as set forth herein.
- B. All workers, mechanics, tradesmen, artisans and other employees engaged on the work by the Contractor shall be trained and skilled in their various occupations. All plant, tools and equipment of every kind shall be suitable in character and ample in quantity and capacity to carry out and complete the work of the contract in the required times and according to approved program of construction. The Contractor shall supply all materials and work incidental to the construction included under the contract, notwithstanding minor omissions in the plans and specifications. Materials and workmanship of every kind shall conform to all the requirements of these specifications and wherever not explicitly described shall conform to best current practices.
- C. The Contractor shall perform the contracted work in proper sequence relative to the work of other contractors and to the acts or operations of the Owner. No deviation from the plans or specifications will be permitted, unless authorized in writing by the Engineer.

Sec. 20.13.017. General provisions concerning time.

- A. The construction herein provided for is to be completed within certain times as set forth in the contract documents. Calendar days specified in the contract exclude the period between December 15 and March 15. No payment shall be made to the Contractor on account of any delays whatsoever, no matter by what or by whom caused, even by other contractors on the same work, or by reason of the Engineer's acts in giving directions, in rejecting materials, methods or workmanship, or by seasons, weather or stream fluctuations. The amount provided in the contract for payment for the work items is understood and agreed to include and cover all expenses due to delays. Extensions of time for completion will be granted under the following conditions:
 - 1. If the Owner should, in writing, direct deferment of the beginning of work beyond the formal date to begin work, or if the Owner should order the work closed down or temporarily discontinued, corresponding extensions of time would be granted with due consideration for changed working conditions incident to seasons and weather.
 - 2. If the final contract cost, as increased by duly executed change order(s), exceeds the total contract cost based on the estimated quantities as given in the Proposal, the time of completion will be set forward a

~~number of working days in the proportion that such excess cost bears to the cost based on estimated quantities.~~

3. ~~The Contractor is requested to bring to the attention of the Engineer, by letter, during the progress of the work, the occurrence of events which the Contractor considers may warrant extension of time under the conditions of the contract. If the contract is not completed within the time stipulated, the Contractor shall, at the conclusion of the work, present a written statement to the Engineer concerning all matters of time extensions.~~
 4. ~~The amount of all extensions of time, for whatever reason drafted, shall be determined by the Engineer with due consideration of working seasons and working conditions. In general, only actual and not constructive or hypothetical days of delay will be considered. The Owner shall have authority to draft additional extensions of time as the Owner may deem advisable and justifiable. Approved time extensions shall be added to the March 15 date if the current contract time expires, or time extensions extend, to the period between December 15 and March 15.~~
 5. ~~If the Contractor fails to complete the work within the time fixed by the contract or extensions thereof, and if the Owner shall nevertheless permit the Contractor to continue and complete the same, such permission shall neither modify nor waive any liability of the Contractor for damages arising from non-compliance of the work within the said time, but all liabilities shall continue in full force against the Contractor.~~
- B. ~~With only the exceptions outlined herein, all work under any contract shall be completed and ready for operation within the time listed in the proposal after the issuance of notice to proceed.~~

Sec. 20.13.018. Liquidated damages.

- A. ~~If the Contractor shall neglect, refuse or fail to complete the work within the time set forth above, or any proper extension thereof granted by the Owner, the Contractor shall pay to the Owner the amount specified in the special provisions for each day the entire work is incomplete. Said obligation of the Contractor is not a penalty, but is liquidated damages for loss to the City and the public, after the expiration of the time stipulated in the contract, as adjusted by duly executed change orders, and will be deducted from any money due the Contractor under the contract. The Contractor and the surety of record shall be liable for any and all liquidated damages.~~
- B. ~~The Contractor shall forfeit, as a penalty to the City of Independence, Missouri, \$10.00 for each worker employed for each calendar day or portion thereof, if such worker is paid less than the prevailing wage rate as set forth in the specifications for any work done under a given contract, or by any subcontractor working under such contract. (The prevailing wage rates are included in contract special provisions.) In addition to the penalty, progressive contract payment shall be withheld until there is compliance with the prevailing wage rate.~~

Sec. 20.13.019. Bond and maintenance guarantee.

- A. ~~The Contractor shall provide a bond for faithful performance of the contract and for persons performing labor or furnishing materials in connection therewith, with sureties satisfactory to the Owner and in the form provided. This performance bond shall be in the full amount of the contract and shall have as surety thereon a company authorized to do business in the State of Missouri, qualified as acceptable surety for United States government deposits, and acceptable to the Owner.~~

~~The Contractor will guarantee that the equipment, materials and workmanship furnished under the contract will be as specified and will be free from defect for a period of two years from the date of final City acceptance. In addition, the equipment or materials furnished by the Contractor shall, upon receipt of notice from the Owner, be repaired or replaced without expense to the Owner, and the Contractor shall save the Owner harmless from any damage from faulty workmanship or materials installed under the contract.~~

Sec. 20.13.020. Taking over work and withholding payments.

- A. ~~If the Contractor shall become insolvent or be declared bankrupt, or commit any act of bankruptcy or insolvency, or if it should become evident to the Engineer that the Contractor is not making proper progress to insure completion within the specified time, or is prosecuting the work with insufficient, inadequate or unsuitable plant and equipment, or has failed to make good rejected work or materials, the Owner shall have~~

~~the right, without violation of contract, after giving the Contractor seven days' notice in writing, to undertake itself either by administration or by letting contract(s) to other parties, the completion of the said work which is being thus neglected, or to supplement the Contractor's work and operations by supplying additional plant, equipment, materials or labor.~~

- B. ~~Should the Owner's work cost less than the Contractor would have been paid, the difference shall be paid to the Contractor. However, should it cost more, the difference shall be payable by the Contractor and the Contractor shall, on demand, pay the amount of excess to the Owner. Under these circumstances and for these purposes, the Owner shall have the right to enter upon and take temporary possession of the plant, tools and supplies of said Contractor, or any part thereof.~~

~~In addition to the percentage of payments to be temporarily retained by the Owner, pending completion of the work, the Owner shall have the right to withhold sufficient amounts of any payment otherwise due the Contractor to cover failure of the Contractor to make proper payment on amounts past due and payable for just claims for labor, materials and services applied to the work of the contract, and for defective work not remedied. The Owner shall have the right to act as agent for the Contractor in disbursing such withheld funds to the party or parties entitled thereto, and in case of such disbursements shall render the Contractor a full accounting for all such funds.~~

- C. ~~The Owner shall not be obligated to take any such action and the failure of the Owner to act under this and similar clauses of the specifications shall not relieve the Contractor from any responsibilities, obligations or liabilities resulting from failure to complete the contract within the times prescribed.~~

Sec. 20.13.021. Use of completed work.

~~The Owner may, prior to the completion of all the work performed by the Contractor, or acceptance thereof by the Owner, enter upon and use any portion of said work without any compensation or payment whatever to the Contractor for any delay in the work caused by such use. Such taking possession and use shall not be deemed as acceptance of the work so taken and used, or any part thereof.~~

Sec. 20.13.022. Easements and rights-of-way.

- A. ~~The project will be constructed through easements obtained by the Owner and/or on public rights-of-way. The Contractor shall confine operations to construction limits shown on the plans and be responsible for obtaining, at no expense to the Owner, any additional space required. The Contractor shall confine work on private property to easements obtained in advance by the Owner. Disturbed areas shall be restored as stated in the contract documents.~~
- B. ~~The Contractor shall be responsible for any loss suffered by adjacent property owners as a result of, or by reason of, the work done and shall indemnify and save the Owner harmless from any such loss on private property.~~
- C. ~~In case work is to be done in State right of way, a permit is to be obtained by the Contractor from the Missouri State Highway Department, 5117 East 34th Street, Kansas City, Missouri 64128.~~

Sec. 20.13.023. Location of utilities.

- A. ~~All known utilities such as gas, water, telephone, power, television cable, sanitary and storm sewers, will have been located on the plans to the best of the Owner's knowledge, but the Contractor shall ascertain in the field the exact location of all such utilities, including individual services, if any exist, and shall be fully responsible for the replacement of damaged utility, either public or private.~~
- B. ~~Special emphasis is placed upon the necessity that care shall be exercised to prevent damage to existing structures, overhead lines and underground lines, and pipes lying within or adjacent to construction or storage areas, and where indicated on plans. The Contractor shall make every effort to locate all underground facilities, by contacting utility owners or otherwise locating pipelines, conduit and structures in advance of earthwork operations. The Contractor will be responsible for repair of all damage to existing facilities during the contract, even if done by a subcontractor.~~
- C. ~~Should there be on or under the property buildings, poles, wires, pipes, sewers, conduits or similar structures which the Contractor would desire removed or relocated, either temporarily or permanently, it will be the responsibility of the Contractor to accomplish such action unless otherwise specifically provided.~~

~~Sec. 20.13.024. Salvage of materials removed.~~

~~The Contractor shall carefully remove all materials designated to be salvaged and reused in a manner to prevent damage. Any damaged material will be replaced at the Contractor's expense, if so designated. Materials shall be protected and stored on site until ready for reuse as approved by the Engineer.~~

~~Sec. 20.13.025. Facilities at site.~~

- ~~A. The Contractor shall have at all times copies of the plans and specifications at the work site and shall require each foreman to have at the work site a copy of that part of the plans and specifications which pertain to the work when the construction is in progress, to confer with the Engineer or any representatives, and to receive such directions or approvals as the Engineer may desire to give.~~
- ~~B. The Contractor shall provide power for lighting, operation of the equipment, testing, or for any other uses required for the proper completion of the work. Water for and in connection with the work, including testing of pipes, drinking, or for any other use as may be required for the proper completion of the work to be performed, shall be provided by the Contractor.~~
- ~~C. The Contractor shall provide, maintain and enforce the use of approved sanitary facilities for employees. Toilets shall be of the chemically treated type to comply with the City Health Department and with City ordinances. To the extent possible, toilet shall be obscured from public view. The Contractor shall maintain these temporary facilities in a neat and sanitary condition and supply with toilet paper. The Contractor shall be responsible for the removal of such temporary toilet facilities when the work is completed and shall be constrained to commit no public or private nuisance.~~
- ~~D. Care shall be exercised to protect all equipment and material during the storage period at work site, during and after installation, and prior to acceptance. Right of way for existing streets and highways shall not be used for storage areas. Cooperation with the Owner and other contractors or utilities to maintain the project site in a well-ordered condition shall be required. The Contractor shall coordinate delivery of materials and supplies with the program of construction so that an undue amount of storage space is not required on site.~~
- ~~E. The Contractor shall provide, erect, maintain and remove when so requested, all scaffolding, staging, platforms, flooring guards, railings, stairs, etc., as required for the protection of workers and the public, and to provide properly for all operations of construction and inspection. Compensation for all facilities at the site shall be covered by the amounts paid for completed construction as provided under the bid items in the proposal.~~
- ~~F. If explosives are to be used in the construction, on-site storage shall be in a secure manner, clearly marked, as approved by the Independence Fire Department. On-site explosive storage shall be in care of competent watchers at all times.~~
- ~~G. Utmost care shall be taken to establish and maintain the best possible relationship with adjacent and surrounding property owners. Special care shall be taken where fences are to be breached on private property to contact owners and insure proper protection of anything within the enclosure. The Contractor shall maintain the site and operate so as to avoid creating a public nuisance.~~
- ~~H. Work shall be conducted so as to avoid and eliminate unnecessary noise, dust and dirt. Attention shall be directed to the condition of roadways in use by equipment associated with the construction and should muddy conditions develop, the Contractor shall keep public roadways clean to the best possible extent.~~
- ~~I. The Contractor's signs shall be placed in locations so as not to interfere with or obstruct the view of traffic or operations of construction; placement shall comply with directions of the Engineer. Signs shall be removed promptly upon completion of the project, or as the need for them is ended.~~
- ~~J. Upon completion of the work of construction, and before acceptance, all surplus material, temporary structures and debris shall be removed and the premises left in a sightly condition. No separate payment shall be made for final cleaning up, but shall be included in amounts paid for the completed work as bid.~~

Sec. 20.13.026. Safety practices and accident prevention.

- A. In the performance of the contract, the Contractor and subcontractors shall comply with and observe all of the requirements of the Federal Occupational Safety and Health Act (OSHA), and all rules and regulations published in connection therewith. The Contractor shall provide equipment and medical facilities as are necessary to supply first aid to anyone who may be injured in connection with the project. Provisions must also be made for the immediate removal and hospitalization in case of emergency. Anyone acting in a supervisory capacity should have authority to order such emergency action.
- B. Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, building and construction codes and the like shall be observed. Machinery and equipment and other hazards shall be guarded in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are consistent with applicable law or regulation.
- C. The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient red or yellow lights, danger signals, warning and closure signs and shall provide watchers and take all necessary precautions for the protection of the work and the safety of the public.

Sec. 20.13.027. Explosives and blasting.

- A. No explosives shall be used without written permission secured in advance from the Owner. Before using explosives, the Contractor shall comply with all requirements of law and obtain a blasting permit, which requires a separate insurance certificate to be filed with the Owner.
- B. Before obtaining any explosives, the Contractor shall become familiar with all state statutes governing the storage and use of explosives, and the requirements of the City, and shall govern the operations according to the regulations thereof. The time of placing, size and firing of charges shall at all times be subject to the approval of the Engineer, but the Contractor shall be fully responsible for any damage resulting from their use.

Sec. 20.13.028. Existing thoroughfares.

- A. The Contractor shall not close any thoroughfare without the written consent of the Director of Public Works/Engineering of the City of Independence, Missouri. The Director can be reached in the Engineering Division of the Public Works Department, 111 East Maple, Independence, Missouri, telephone 816-325-7601.
- B. All operations shall be conducted in such manner as to insure the least possible obstruction to traffic. Open trenches shall be bridged where necessary, and personnel employed to direct traffic through construction areas. If it should become necessary to close a section of an existing road or street and a detour is required to accommodate the traveling public, or for use of the Contractor, the work of constructing the detour shall be done by the Contractor to the satisfaction of the Engineer. Such detour shall be constructed so as to be safe and to cause no unreasonable delay in public travel. If constructed solely for the use of public traffic and if ordered by the Engineer, the work shall be paid for at the respective prices as listed in the Proposal and/or as authorized by change order. If constructed for the use of the Contractor, the Contractor shall be responsible for the construction and maintenance.

Sec. 20.13.029. Liabilities, damages and accidents.

- A. The Contractor shall assume and be responsible for and shall indemnify, protect and save harmless the Owner against any and all claims, demands or causes of action by any party or parties whatsoever for loss, injury or damage of any kind or character, either to persons or to property, directly or indirectly arising out of his/her operations or the acts or omissions of the contractor, any agents or workers. The Contractor shall pay all judgments obtained by reason of accidents, injuries or damages in any suit or suits against the Owner, including all legal costs, court expenses and other like expenses; the Contractor shall have the option of assuming the sole defense of such suits.
- B. The Contractor shall assume all risks of loss and damage to the Contractor's property and to property in his/her custody and to the property of any employees, agents and servants, howsoever caused; all risks of damage resulting from the death of or injury to himself/herself, any agents and servants, while engaged in said work and while traveling to and from the same; and he/she agrees to hold the Owner free and harmless from all loss, cost and expense on account thereof, and agrees to indemnify and save harmless the Owner from all loss, cost and expense arising or growing out of any injury to any employee of the Owner caused by the negligence of

~~the Contractor or any employees; also from all loss, cost and expense arising or growing out of any injury to any person while upon the premises of the Owner caused by the negligence of the Contractor, or any employee; also from all loss, cost and expense arising or growing out of any damage to any property, whether belonging to the Owner or not.~~

- ~~C. All delivered materials and portions of completed work shall be deemed to have become the property of the Owner, but the Contractor shall store materials and shall be responsible for and shall maintain partly or wholly finished work during the continuance of the contract, and until final acceptance of the work covered by the contract. If any materials or parts of the work be lost, damaged or destroyed by any means whatsoever, the Contractor shall satisfactorily repair and replace the same at his or her own cost.~~

~~Sec. 20.13.030. Insurance requirements.~~

~~The Contractor shall not commence work under this contract until he or she has obtained all insurance required under this section and elsewhere in the contract documents, such as exceptional insurance requirements outlined in the contract special provisions, and such insurance has been approved by the Owner. The Owner shall be named as an additional insured on the policies and certificates. Any and all certificates of insurance must be approved and on file with the City Clerk before work commences under this contract. Should the Owner so request, copies of policies may be required for examination. The following are the required insurance coverages:~~

- ~~A. *Worker's Compensation Insurance.* The Contractor shall comply with the Worker's Compensation laws of the state, including the site of construction, and furnish to the Owner a certificate of evidence that he or she has complied with all such laws and that he or she has paid all contributions required by the state thereunder.~~

~~In the event that any class of employees engaged in hazardous work at the site of the project under this contract does not come under the protection of the Worker's Compensation Act of the state, including the site of construction, the Contractor shall provide and shall cause each subcontractor to provide adequate insurance coverage for the protection of such employees. The Contractor shall be required to carry employer's liability insurance.~~

- ~~B. *Public Liability.* The Contractor shall have in force throughout the life of this contract insurance for both general public liability with excess coverage and umbrella and broadform property damage and automotive liability to at least the following limits:~~

~~Bodily injury: \$300,000.00 per person; \$2,000,000.00 per occurrence~~

~~Property damage: \$2,000,000.00 per occurrence~~

~~Equal limits of coverage must be provided by the Contractor in an owner's protective liability policy and endorsements covering subcontractors or evidence of insurance in force must be provided by each subcontractor before that subcontractor commences work.~~

- ~~C. *Special Insurance Requirements:*~~

- ~~1. If blasting is required, provisions of Chapter 17 shall be followed, including permit, insurance, seismograph and notification.~~
- ~~2. Builder's risk will be required for protection against vandalism and malicious mischief when the construction involves a building when there is a probable risk of loss exceeding \$25,000.00. When equipment and/or materials of \$25,000.00 or more are involved, Inland Marine Insurance may be required to protect such items in transit.~~
- ~~3. When construction work is required on railroad property, the Contractor shall obtain, pay for and maintain a protective liability insurance contract for and in behalf of each railroad involved and as specified in the special provisions.~~

~~Sec. 20.13.031. Dimensions, gradient and alignment.~~

~~The Contractor shall verify in the field all dimensions and elevations which require connections to existing structures and utilities and for modifications inside existing structures. Benchmarks are shown on the plans; however, control stakes shall not be furnished by the Engineer. The Contractor shall make whatever measurements and alignments he or she may find necessary or convenient to enable him or her to construct each element of the~~

work in the correct position to correspond to the information shown on the plans and given by the Engineer during the progress of the work.

Elevations shown on the drawings and referred to in the contract documents are based on benchmarks shown. The Contractor shall employ competent personnel for making position, gradient and alignment determinations and measurements. All monuments, benchmarks, reference points and stakes shall be carefully preserved. In case of destruction, the Contractor shall be charged with resulting expense of replacement. The Contractor shall be responsible for any mistakes or loss of time caused by unnecessary loss or disturbance of monuments, benchmarks, reference points and stakes.

Sec. 20.13.032. Change in amounts of work.

The Owner shall have the right to increase or diminish the quantity, to change the order, or to dispense with portions of the work at any time without impairing the contract and without changing the unit prices to be paid. In case of the reduction in amount of work, no payment will be made on account of work not done if the total amount paid to the Contractor for the entire contract, exclusive of added line items, is as much as 80 percent of the total bid as included in the Contractor's Proposal. If the total amount is less than 80 percent, an allowance to be fixed by the Engineer will be paid due to the administration and plant costs.

The Owner shall have the right to eliminate from the contract at the bid price minor items on which bids may appear to the Engineer unreasonably unbalanced and to provide for the construction by unclassified work, or otherwise. A minor item shall be one involving not more than approximately two percent of the total of the contract, or for which probable quantities cannot be estimated in advance.

In case of increase in amount of work, payment for such increase at the unit price bid for the work of the classes so increased shall be full compensation for the work done. When changes to work not covered in the contract documents and involving added cost occur, they will be performed only on a written change order signed by the Contractor and duly processed by the Owner. All costs and indirect costs, including overhead, bond and profit shall be submitted as a maximum cost figure on this change order. The Contractor shall not proceed with any work under a change order requiring additional materials or costs until written approval is given by the Engineer.

The Owner may at or prior to contract award appropriate up to ten percent more than the contract value to be reserved for change orders to the project. Administrative change orders may be processed for the contract up to appropriation amounts. Administrative change orders may be for unit price extensions, cost plus additions or negotiated prices, and are to be in written form approved by the City Manager and attested by the City Clerk. All other change orders require approval by the City Council.

Sec. 20.13.033. New items.

- A. The Owner shall have the right to require the Contractor to perform work or supply materials essential to the completion of the work, of a class or type not provided for in the contract documents, or not included and covered under classifications for which price payments are provided in the contract. This work shall be added as a new line item.
- B. When a new item is ordered, it shall be paid for as the Owner may elect, either by a lump sum or by unit prices mutually agreed upon by the Owner and the Contractor in writing, or, if such agreement cannot be made or the Owner so elects, on the basis of estimated cost to the Contractor of constituent unfabricated materials, including fuel, or applied labor, and of liability insurance for labor, plus 20 percent thereof to cover and include Contractor's profit, superintendence, overhead and indirect expense, including interest on borrowed money and premiums on bonds, and for the use of plant, equipment, tools and appliances. Where manufactured or fabricated materials or articles are to be purchased for installation, or some of the work is done by subcontract, the Contractor shall estimate five percent over and above the Contractor's costs of such items instead of 20 percent. For such work, plant and tools shall be provided of the same general character as employed for similar kinds of operations on the project.
- C. The Contractor shall not begin any work for which new items are provided in the contract without written approval from the Engineer.

Sec. 20.13.034. Notice of claims for extra compensation.

Should any conditions arise which in the Contractor's opinion will require any claims or demands for extra or additional compensation above that fixed by the contract, or on which he or she contemplates bringing claims for

such extra compensation, the Contractor shall promptly and before incurring any expenses, notify the Owner in writing of the conditions and circumstances and that such claims are anticipated. The Contractor agrees that any claims made without such advance notice, and not presented in such a way as to enable the Engineer to observe conditions as they occur and to verify expenses as they occur and to determine with certainty the correctness of such claims and of the expenses involved, are waived and shall be null and void. The Contractor shall not proceed with any work requiring added compensation until written approval is given by the Engineer.

Sec. 20.13.035. As-built drawings.

As-built, or record, drawings are required and will serve as a permanent record of construction details.

- A. The Contractor shall submit complete record drawings, or marked-up prints of contract drawings, as final as-built drawings. All changes in the contract work, added work, and work deleted, shall be shown in contrasting colors on these record drawings.
- B. The Contractor shall maintain a set of record drawings at the job site. These shall be kept current and legible and be available for the inspection of the Engineer at all times.
- C. Upon substantial completion of the project work, the Contractor shall submit these marked-up drawings for the approval of the Engineer. The Engineer shall be the sole judge of the acceptability of these drawings as submitted.
- D. Receipt and approval of as-built record drawings shall be a prerequisite for Contractor's final payment on the contract. Condition of as-built drawings must be suitable for recording on microfilm.

Sec. 20.13.036. Acceptance of work.

No part of the construction will be finally accepted until the entire contract shall have been completed. Upon final completion of the work, the Engineer will make final inspection and when it is found that the Contractor has completed the entire contract in accordance with the contract documents, the Owner will thereupon issue a formal order of acceptance and the final pay estimate will be rendered.

Sec. 20.13.037. Methods of payment.

- A. Lump Sum Payment: When so indicated in the contract special provisions under the section entitled "Measurement and Payment," payment will be made for the entire contract in cash or by check by the City of Independence, Missouri, upon completion, final inspection, approval of as-built record plans and acceptance of the work.
- B. Partial (Progress) Payments: Payments will be made at unit prices shown in the Proposal, with work in place as described in the contract documents as a basis for making monthly pay estimates. Before the first application for payment, the Contractor shall submit to the Engineer a schedule of values of the various portions of the work, including quantities, if required by the Engineer, aggregating the total contract sum, divided according to subcontractors and prepared in such form as the Engineer and the Contractor may agree upon, and supported by such data to substantiate its correctness as the Engineer may require. Each item in the schedule of values shall include its proper share of overhead and profit and this schedule, when approved, shall be used only as a basis for the Contractor's application for payment.

At least 15 days before each payment will fall due, the Contractor shall submit to the Owner an itemized application for payment, supported to the extent required by the Engineer by receipts or vouchers showing payments for materials and labor, payments to subcontractors, and such other evidence of the right to payment as the Engineer may direct. On or about the first day of the month, the Engineer will make an estimate of the value of the total work done. After each estimate shall have been approved by the Owner, the Owner shall pay to the Contractor, within 15 days, 90 percent of the amount of such estimated sum, less the sum of all previous payments. No payments will be made on account of materials not to be incorporated in the work. Progress payments will be made to the Contractor based on 90 percent of the value of the work satisfactorily completed and for the unused material on hand at the time of the progress estimate. After the contract is 50 percent completed, payments may be increased by the full value of the additional work satisfactorily completed. The retained percentage will be withheld by the City until final payment is authorized by the Director, except that when the work is stated as substantially complete in writing, the Engineer may reduce the retained percentage to an amount equal to 200 percent of the remaining minor items to be completed.

As directed in writing by the Engineer, adjustments may be made in the estimates for quantities shown under each bid item at the unit prices named in the Proposal, so long as these adjustments do not result in an excess of the total contract amount. All other variations must be made as provided under Section 20.13.032, Change in Amounts of Work.

It is agreed by the Contractor that any payments or advancements of funds to be made to the Contractor under provisions of this agreement shall not be assigned or pledged by Contractor unless consent in writing is first obtained from the Owner.

C. Force Account may be applied under the following conditions:

1. Force account work will be measured and paid for on a Contractor's cost, plus a percentage basis.
2. The "Contractor's cost" is hereby defined for purposes of this article to be, and shall include, the amounts required to pay subcontractors, plus the costs of Contractor's as follows:
 - a. Labor Costs:
 - (1) The payroll cost for all workers such as foremen, mechanics, craftsmen and laborers.
 - (2) All incidental labor expenses incurred as a direct result of the performance of the work, including payroll taxes, worker's compensation, pension and retirement allowances and social security insurance or other regular payroll charges on same.
 - b. Material and Equipment Costs:
 - (1) The cost of all materials and equipment required, delivered to the construction site, which are not furnished by Owner or others.
 - (2) Sales and use taxes applicable to such materials and equipment.
 - c. Supplemental Costs:
 - (1) Rental for all power driven equipment at agreed upon rates shall be charged against force account work only for the actual time which the equipment is used specifically therefore.
 - (2) Transportation charges necessarily incurred in connection with such equipment which is not already on the site.
 - (3) Cost of power, fuel, lubricants and water required for such equipment (may be included in agreed upon rate).
 - (4) Additional cost for surety bonds, liability and property damage, and other insurance required, where cost is necessarily increased by coverage of the force account work.
 - d. The above definitions and requirements apply equally to work done by subcontractors, suppliers and manufacturers.
 - e. The percentage which shall be added to the several items of Contractor's cost are as follows:
 - (1) Amounts paid to subcontractors: 5%.
 - (2) Labor costs: 10%.
 - (3) Material and equipment costs: 10%.
 - (4) Supplemental costs: 0%.
3. The above percentages shall be understood to include all other costs and full compensation for profit, overhead, superintendence, field office expense and all other elements of cost not included in the "Contractor's cost," as herein defined.
4. The Contractor shall keep and present in an acceptable form an accurate account with vouchers of the several items of cost, including those of subcontractors performing force account work.

D. Late Payment Clause: If the Owner fails to make a monthly pay estimate 30 days after approval by the Engineer, in addition to other remedies available to the Contractor, then interest shall be added to each

payment at the maximum legal rate, commencing on the first day after said payment is due and continuing until the payment is received by the Contractor. The legal rate of interest shall be as specified in RSMo 34.057.

~~Sec. 20.13.038. Acceptance and final payment.~~

~~Upon determination by the Engineer that all work has been completed in accordance with the contract, and approval of as-built plans submitted for record, the Owner will accept the project as such by an approved letter of acceptance.~~

~~When the work has been so completed and certified by the Owner, a final estimate will be executed and submitted, which will provide payment to the Contractor for the entire sum due as set forth in the contract documents, including all amounts previously retained by the Owner. All prior partial estimates and payments shall be subject to correction by the Owner in this final estimate and payment.~~

~~Payments for the work will be made by check by the City of Independence, Missouri, as herein specified.~~

~~Secs. 20.13.039—20.13.999. Reserved.~~

ARTICLE 14. PERMITS AND FEES

~~Sec. 20.14.001. Building plan reviews and fees.~~

~~The Public Works Department shall review all building permit applications for compliance with the Public Works Manual. A fee per application will be charged on all applications, except for commercial developments, per the Schedule of Fees.~~

~~Sec. 20.14.002. Commercial plan review fee.~~

~~The Public Works Department shall review all commercial building permit applications for compliance with the Public Works Manual. A fee shall be charged on all applications for review, per the Schedule of Fees.~~

~~Sec. 20.14.003. Reserved.~~

~~Sec. 20.14.004. Final inspections and fees.~~

- ~~A. The Public Works Department shall perform a final inspection at the site of each residential and commercial building to verify compliance with the Public Works Manual and all applicable provisions of the City Code. A fee will be charged for each inspection in accordance with the Schedule of Fees.~~
- ~~B. Reinspection Fees: The inspection fee provides for an inspection and, if required, one reinspection. If additional reinspections are required because of incomplete or faulty work the fee for the reinspection shall be assessed in accordance with the Schedule of Fees. The fee shall be paid by the permittee before another inspection can be requested.~~

~~Secs. 20.14.005—20.14.999. Reserved.~~

ARTICLE 15 3. DISPOSAL OF CITY OWNED REAL ESTATE

Sec. 20.1503.001. Scope.

This article governs procedures for the surplusing of all City owned real estate within the City of Independence, Missouri.

Sec. 20.1503.002. Declaration of surplus property.

- A. City owned real estate shall be declared surplus, and the procedure spelled out for the disposal of that surplus property, by an ordinance passed by the City Council. This ordinance shall include establishment of a minimum sale price, which shall be used in the advertisement of the sale.
- B. The Director of ~~Public Works~~ Municipal Services shall be authorized by the ordinance to proceed with the surplus process, to include the following:
 - 1. The sale shall be advertised for three days in a local newspaper.
 - 2. Sealed bids shall be considered within 30 days of the last date of advertisement.

3. If no acceptable bids are received during the above referenced 30 days, offers to purchase the property will be received. Offers exceeding the minimum bid and any other offers deemed in the best interest of the City shall be forwarded to the City Council with a recommendation for approval.

Sec. 20.4503.003. Appraisals of surplus property.

Any tract with an estimated value of greater than \$2,500.00 shall be appraised by a competent real estate appraiser, unless this requirement is waived by the Director of Public Works Municipal Services.

Sec. 20.4503.004. Federally funded surplus property.

The surplusing and disposal of any real estate acquired with participating Federal funding shall be in conformance with the rules and regulations of the government agency which provided the funding.

Secs. 20.4503.005—20.4503.999. Reserved.

ARTICLE 16. EROSION CONTROL REQUIREMENTS

Sec. 20.16.001. Scope.

- A. ~~This division governs all design work, and materials required for temporary water pollution control measures which shall be required on all construction projects where earth is disturbed.~~

~~As defined herein, best management practices shall be performed throughout the life of the project to control water pollution. Construction of permanent drainage facilities as well as performance of other work which may contribute to the control of siltation shall be accomplished at the earliest practicable time. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage, or other harmful material shall not be discharged from the project.~~

- B. ~~This work shall consist of furnishing, installing, maintaining, and removing temporary control measures as shown on the plans or ordered by the engineer. The control of water pollution through use of berms, slope drains, ditch checks, sediment basins, seeding and mulching, bales, silt fences, and other erosion control devices or methods, shall be used in accordance with this article.~~

- C. ~~The temporary pollution control provisions contained herein shall be coordinated with any permanent erosion control features specified elsewhere in the plan or contract documents to assure effective and continuous erosion control. These provisions shall also apply to work within easements designated for the project.~~

Sec. 20.16.002. Erosion control plans.

~~Prior to any construction, a plan shall be submitted for acceptance for the implementation of temporary and permanent erosion control work, as are applicable for clearing and grubbing; grading; bridges and other structures at watercourses; construction; and paving. No work shall be started until the erosion control sequences and methods of operations have been approved by the engineer and in place.~~

Sec. 20.16.003. Construction requirements.

- A. ~~The engineer may limit the surface area of erodible earth material exposed by clearing and grubbing, the surface area of erodible earth material exposed by excavation, borrow, and fill operations, and may require the immediate permanent or temporary pollution control measures to prevent contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment. Such work may involve the construction of temporary berms, dikes, dams, sediment basins, slope drains, and use of temporary mulches, seeding or other control devices or methods as required on the plans or in the contract document.~~

- B. ~~All permanent erosion control features shall be incorporated into the project at the earliest practicable time. Temporary pollution control measures shall be used to correct conditions that develop during construction which were not foreseen during the design state; that are needed prior to installation of permanent pollution control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.~~

- C. ~~Clearing and grubbing operations shall be so scheduled and performed that grading operations and permanent erosion control features will follow immediately thereafter. The surface area of erodible earth material exposed at one time by clearing and grubbing, by excavating, by fill, or by borrow shall not exceed 750,000 square feet without written approval of the engineer.~~

- D. The engineer will limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress commensurate with the capability and progress in keeping the finish grading, mulching, seeding, and other such permanent pollution control measures current. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately.
- E. The engineer may increase or decrease the amount of surface area of erodible earth material to be exposed at one time by clearing and grubbing, excavation, borrow and fill operations based upon an analysis of project conditions.
- F. Unless otherwise provided or approved in writing by the Engineer, construction operations in rivers, streams, and impoundments shall be restricted to those areas which must be entered for the construction of temporary or permanent structures. Rivers, streams, and impoundments shall be promptly cleared of all falsework, piling, debris or other obstructions placed therein or caused by the construction operations.
- G. Frequent fording of live streams with construction equipment will not be permitted. Temporary bridges or other structures shall be used wherever an appreciable number of stream crossings are necessary. Unless otherwise approved in writing by the Engineer, mechanized equipment shall not be operated in live streams except as may be required to construct channel changes and temporary or permanent structures. If a Section 404 permit is applicable, its requirements and/or conditions shall prevail.
- H. The location of all local material pits, other than commercially operated sources, and all excess material areas shall be subject to the approval of the Engineer and construction operations shall be conducted and pollution control measures implemented so that erosion will not result in water pollution.
- I. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other Federal, State, or local agencies, the more restrictive laws, rules, or regulations shall apply.

Sec. 20.16.004. Temporary berms.

- A. A temporary berm is a temporary ridge of compacted soil, with or without a shallow ditch, constructed at the top of fill slopes or transverse to centerline on fills.
- B. The purpose of these ridges is to divert storm runoff from small areas away from steep slopes and direct this water to temporary outlets where the water can be discharged with minimum erosion.
- C. These temporary ridges are used at the top of newly constructed slopes to prevent excessive erosion until permanent controls are installed and/or slopes are stabilized, as well as transverse to grade to divert runoff to stabilized slope drains. Two types of temporary berms will be utilized under conditions listed below, unless directed otherwise by the Engineer:
 - Type "A" berms will be constructed at the end of each day's operations on embankments.
 - Type "B" berms will be constructed when embankment operations are shut down over the winter season or discontinued at the direction of or with the concurrence of the Engineer.
- D. Interceptor berms transverse to centerline may be used when temporary berms are installed on all grades in excess of one percent and at all locations where water is to be carried down the fill slope by temporary or permanent slope drains.

Sec. 20.16.005. Construction requirements.

Type "A" Berms shall be constructed in accordance with the Standard Drawings as shown in Article 4. These berms will be machine compacted with a minimum of one pass over the entire width of the berm with a dozer tread, grader wheel, or other compaction device.

Type "B" Berms will be constructed in accordance with the Standard Detail as shown in Article 4. These berms will be machine compacted with a minimum of three passes over the entire width of the berm with a dozer tread, grader wheel, or other compaction device.

Temporary berms must drain to a compacted outlet at a slope drain. The top width of these berms may be wider and the side slopes flatter on transverse berms to allow equipment to pass over these berms with minimal disruption.

Sec. 20.16.006. Temporary slope drains.

- A. ~~A temporary slope drain is a temporary facility consisting of stone, concrete or asphalt gutters, half-round pipe, metal pipe, plastic pipe, or flexible rubber pipe, used to carry water down slopes to reduce erosion. The method selected shall meet the approval of the Engineer.~~

~~Temporary slope drains shall be required to carry water flowing from cut sections down the fill slopes prior to the time permanent facilities are installed. Temporary slope drains shall also be required on fill slopes at approximately 500-foot intervals or as directed by the Engineer.~~

~~All temporary slope drains will be adequately anchored to the slope to prevent disruption by the force of the water flowing in these drains. The inlet end will be properly constructed to channel water into the temporary drain. The outlet ends of these temporary slope drains will have some means of dissipating the energy of this water to reduce erosion downstream. Unless otherwise specified by the Engineer all temporary slope drains will be removed when no longer necessary and the site restored.~~

Sec. 20.16.007. Ditch checks.

~~Ditch checks shall be constructed in accordance with the detail shown in Article 4.~~

- ~~1. Rock ditch checks shall be constructed of two to three inch clean gravel or limestone placed according to the configuration show on the plans. Hand or mechanical placement will be necessary to achieve complete coverage of the ditch or swale and to insure that the center of the check is lower than the edges.~~
- ~~2. Straw bale ditch checks shall be constructed according to the plans and specifications for the ditch application of the straw bale ditch check as shown on the plans.~~
- ~~3. Silt fence ditch checks shall be constructed according to the plans and specifications for the ditch application of the silt fence ditch check as shown on the plans.~~

Sec. 20.16.008. Maintenance of ditch checks.

- A. ~~Rock ditch checks shall be checked for sediment accumulation after each significant rainfall. Sediment shall be removed when it reaches one half of the original height. Regular inspections shall be made to insure that the center of the check is lower than the edges. Erosion caused by high flows around the edges of the check shall be corrected immediately.~~
- B. ~~Straw bale ditch checks shall have sediment deposits removed after each storm event. Deposits shall be removed when approximately one half the height of the barrier is reached.~~
- C. ~~Silt fence ditch checks shall have sediment deposits removed after each storm event. Sediment must be removed when deposits reach approximately one half the height of the barrier.~~

Sec. 20.16.009. Sediment basins.

~~Sediment basins as required herein shall be constructed in accordance with the details shown in Article 4. A sediment basin can be an excavated or dammed storage area with rock riprap placed in inlet and outlet areas with defined side slopes.~~

~~Sediment basins are constructed to trap and store sediment from erodible areas in order to protect properties and stream channels below the installation from excessive siltation. These structures trap and store sediment that unavoidably occurs in spite of temporary erosion control measures in use.~~

~~The area where a sediment basin is to be constructed shall be cleared of vegetation to enable removal of sediment.~~

~~The inlets of these sediment basins shall be constructed with a wide cross-section and a minimum grade to prevent turbulence and allow deposition of the soil particles. When the depth of sediment reaches one third of the depth of structures in any part of the pool, all accumulation shall be removed.~~

~~Sediment basins shall normally remain in service until all disturbed areas draining into the structure have been satisfactorily stabilized. When use of temporary sediment basins is to be discontinued, all excavations are to be~~

backfilled and properly compacted. Any fill material shall be removed and the existing ground restored to its natural or intended condition.

Removed accumulated sediment and excavated material during construction shall be disposed of in such locations that the sediment will not again erode into the construction areas or into natural waterways.

Sec. 20.16.010. Temporary seeding and mulching.

Temporary seeding and mulching required herein shall be preferred in accordance with applicable provisions in Article 10.

Temporary seeding and mulching is to produce a quick ground cover to reduce erosion in disturbed areas that are expected to be redisturbed at a later date.

Seeding and/or mulching will be a continuous operation on all cut and fill slopes, waste sites, and borrow pits during the construction process, as directed by the Engineer. All disturbed areas shall be seeded and mulched when and where necessary to eliminate erosion, as directed by the Engineer.

Temporary seeding mixtures according to the planting season shall be as follows:

December 1 to March 1 - Per Acre

50 lbs. Oat Grain

March 1 to December 1 - Per Acre

50 lbs. (cereal rye or wheat)

Temporary mulch and fertilizer for seeding shall meet applicable provisions of Article 10 of the Public Works Manual.

Sec. 20.16.011. Straw bales.

Bales of straw used as a means of controlling pollution and erosion as required herein, are to be placed in accordance with the plans and as approved by the Engineer. Straw may be used to obstruct the flow of water to allow deposit of sediment and/or to divert water. Straw may be used at the bottom of embankment slopes to divert runoff from sheet flow and also catch some of the sediment picked up in the sheet flow, and as ditch checks in small ditches and drainage areas. Straw may also be used on the lower side of the cleared area to catch sediment from sheet flow.

Bales of straw will be utilized to control erosion, trap sediment, and divert runoff as directed and approved by the Engineer. When used to trap sediment or divert runoff, the bales must be adequately braced from behind.

Sec. 20.16.012. Silt fence.

A. A silt fence as required herein shall consist of furnishing, installing, maintaining, and removing a geotextile barrier fence designed to remove suspended particles from water passing through the fence.

This silt fence may be either a wire supported geotextile silt fence or a self supporting geotextile silt fence.

B. Fibers used in the manufacture of geotextiles shall consist of longchain synthetic polymers, composed of at least 85 percent by weight polyolefins, polyesters, or polyamides. They shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including salvages. The geotextile shall be free of any treatment or coating which might adversely alter its physical properties after installation. Unless otherwise specified, geotextile shall be furnished in 36-inch width rolls.

C. Geotextile rolls shall be furnished with suitable wrapping for protection against moisture and extended ultraviolet exposure prior to placement. Each roll shall be labeled or tagged to provide product identification sufficient for inventory and quality control purposes. Rolls shall be stored in a manner which protects them from the elements.

D. The silt fence shall be supported by either wood, steel, or synthetic posts. Posts shall have a minimum length of 36 inches plus embedment depth and be of sufficient strength to resist damage during installation and to support applied loads.

E. Support fence, as required herein, shall be at least 24 inches high and strong enough to support applied loads.

- F. Prefabricated fence systems may be used, provided they meet all of the above material requirements.
- G. A temporary silt fence shall be installed as shown on the plans, and at other locations as directed by the Engineer. Fence construction shall be adequate to handle the stress from hydraulic and sediment loading. Geotextile at the bottom of the fence shall be buried as indicated on the standard drawings shown in Article 4. The trench shall be backfilled and the soil compacted over the geotextile. The geotextile shall be spliced together as indicated on the standard drawings.
- H. Post spacing shall not exceed eight feet for wire support fence installations or five feet for self-supported installations. Posts shall be driven a minimum of 24 inches into the ground. Where rock is encountered posts shall be installed in a manner approved by the Engineer. Closer spacing, greater embedment depth and/or wider posts shall be used as necessary in low areas and soft or swampy ground to ensure adequate resistance to applied loads.
- I. When support fence is used, the mesh shall be fastened securely to the up-slope side of the post. The mesh shall extend into the trench a minimum of two inches and extend a maximum of 36 inches above the original ground surface.
When self-supported fence is used, the geotextile shall be securely fastened to fence posts.
- J. The integrity of silt fences shall be maintained to contain sediment runoff. Any deficiencies shall be immediately corrected.
- K. Sediment deposits shall be removed when the deposit approaches one-half the height of the fence or as directed by the engineer.
- L. The silt fence shall remain in place until the Engineer directs that it be removed. Upon removal, silt shall be removed and disposed of and the area finished to the satisfaction of the Engineer.

Sec. 20.16.013. Physical requirements for temporary silt fence geotextiles:

Property	Test Method	Wire-Fence Supported Requirements	Self-Supported Requirement
Tensile Minimum ₂ Strength, Lbs.	ASTM-D4632	90-Minimum ₂	90
Elongation at 50% Minimum tensile strength. (45 Lbs.)	ASTM-D4632	N/A	50-Maximum
Filtering Efficiency, %	VTM-513	75	75
Flow Rate, gal/ft ² /min	VTM-513	0.3	0.3
Ultraviolet Degradation at 500 hrs.	ASTM-D4355	Minimum 70% Strength Retained	Minimum 70 Strength Retained

1. All numerical values represent minimum average roll value.
2. When tested in any principal direction.
3. Virginia DOT test method.

Sec. 20.16.014. Permits required:

An erosion control permit is required for all clearing, grubbing, grading and building construction projects, except where land disruption is 1,000 square feet or less. An application for an erosion control permit shall be made to the Public Works Director on forms furnished. The application must be accompanied by an erosion control plan prepared in accordance with applicable provisions contained herein.

~~Sec. 20.16.015. Financial surety.~~

~~A performance and maintenance bond, letter of credit, or other financial surety shall be provided by the owner in the amount of \$1,000.00 per acre or fraction thereof, with a maximum not to exceed \$10,000.00, and shall be provided prior to issuance of permit or beginning of any work. Release of the surety shall be two years from installation of erosion control measure.~~

~~Sec. 20.16.016. Permit fee.~~

~~No person shall perform any clearing, grubbing, grading, or building construction without first obtaining an erosion control permit and paying the permit fee.~~

~~Secs. 20.16.017—20.16.999. Reserved.~~

~~ARTICLE 17.4. BIDS ON PUBLIC WORKS MUNICIPAL SERVICES PROJECTS~~

~~Sec. 20.1704.001. Advertisement.~~

- ~~A. Whenever public advertisement of a notice to bidders is required by ordinance or the laws of the State of Missouri, unless otherwise provided in this Code, the invitation to bid will be published on the City's website the same shall be advertised in a newspaper of general circulation within the City.~~
- ~~B. A notice to bidders desiring to bid upon a public works project shall be by three insertions in a newspaper of general circulation within the City; provided that the last day of insertion may not be the last day for the receipt of bids; provided further, that there shall be no more than one insertion per day of any said notice to bidders.~~

~~Sec. 20.1704.002. Additional notification requirements.~~

- ~~A. In addition to the required advertisements, an additional advertisement will be placed in a legal publication newspaper accepted for notice to contractors when the estimate for the cost of the project exceeds \$200,000.00.~~
- ~~B. The invitation to bid will be submitted to all the known public works publication houses in the metro area and the full set of specifications and plans will be made available to them if they have a means of displaying for the use of prospective contractors.~~
- ~~C. The invitation to bid will also be mailed to all contractors known to have an interest in a project of this type.~~
- ~~A. In addition to advertisement on the City website, an additional advertisement will be placed in a legal publication newspaper accessible to the contractor community if newspaper advertisement is required by a partnering organization as a means of receiving financial assistance at the state or federal level.~~

~~Sec. 20.1704.003. Preferences.~~

~~Each invitation to bid shall include a statement that reflects the preferences and vendor qualification provisions set out in Section 8.06.003 of the City Code and include a provision for local vendor preference stating licensed businesses operating from a physical address in six (6) months within the City of Independence when quality, service and other terms of the purchases are equal to or better than the low bid shall be given a preference of ten percent (10%) over the low bid, provided that the difference between the low bid and the local bid does not exceed thirty thousand dollars (\$30,000.00) maximum.~~

~~Sec. 20.1704.004. Fee for plans and specifications.~~

~~Plans and specifications, prepared for bidders, can be downloaded from the City's procurement website. There will be no fee for the bidder to download these plans, picked up at the Department designated in the bid advertisement. A non-refundable fee shall be deposited to the City of Independence, Missouri, at the time of receipt of the plans and specifications for the specific project being bid.~~

~~Sec. 20.1704.005. Where bids to be deposited.~~

~~Bidders will be required to submit their sealed bids on a public improvements project to the City's procurement website ~~City Clerk~~ at the time and under the conditions prescribed in the request for bid and the public notices inviting bids.~~

Sec. 20.1704.006. Bid opening procedure.

Bids shall be opened at the prescribed time and location as specified in the invitation to bid and said bid opening shall be open to the public. All bids shall be read aloud and a bid tabulation shall be prepared. A copy of the bid tabulation shall be provided to any bidder upon request.

All bids received at or prior to the stated bid opening time will be opened. All bids received after the stated bid opening time will be returned unopened, when feasible.

Sec. 20.1704.007. Debarment or suspension.

Except to the extent prohibited by law, persons who are debarred or suspended by the City or the State of Missouri shall be excluded from bidding, and shall not be awarded contracts for public works infrastructure for the City of Independence, in accordance with the provisions of Chapter 8 of the City Code.

Secs. 20.1704.008—20.1704.999. Reserved.

ARTICLE 18.5. PRIVATE CONSTRUCTION OF PUBLIC INFRASTRUCTURE WORKS

Sec. 20.1805.001. Regulations and application.

Any person, firm, partnership, corporation, association, co-partnership, or trust prior to commencing any private work on public works infrastructure projects in the City of Independence, Missouri, shall comply with the following regulations and provisions:

1. Plans and specifications for the private construction of public works projects, including but not limited to streets, drainage systems, sewers, or thoroughfares to be dedicated to and maintained by the City of Independence, Missouri, shall be submitted to the Director of Community Development for approval.
2. A permit shall be obtained from the Director of Community Development authorizing the construction mentioned and set forth in the plans and specifications submitted.
3. No permit shall be issued by the Director of Community Development until the applicant has paid a permit fee for sewers and street projects, such funds to be payable to the Director of Finance and Administration, and to be used to defray the cost of reviewing the plans, specifications and progress of the work on said project. Additionally, the applicant shall pay a plan review fee each time the plans and specifications are reviewed by the Community Development Department and after they are reviewed on two separate instances.
4. No construction shall be accomplished, and the permit provided for herein shall not be issued until a maintenance bond in an amount equal to 75 percent of the cost of construction and satisfactory to the Director of Community Development shall be posted with the Director of Community Development, guaranteeing against defects in construction of any public works project, including but not limited to street, sewers and curbs, and materials used for a period of two years after acceptance by the City of said public works infrastructure project; and further guaranteeing and insuring that such construction shall be accomplished in a workman-like manner, and further protecting the City of Independence, Missouri, and insuring said City from any loss or damage.

In those instances where the City is required to obtain a permit to allow the applicant to make connection(s) to the facilities of others, the applicant will provide a performance bond acceptable to the Director of Community Development to the City equal to the cost of the proposed construction and a certificate of insurance naming the City as additional insured for damage to the property of another person in the amount of not less than \$100,000.00 for any one accident.

Additionally, the Developer or Owner shall post a performance bond or deposit in the amount of the greater of \$500.00 or two percent of the project value for preparation of as-built drawings of the project.

5. No construction work shall be commenced until the permit provided for has been issued and a written notice to proceed shall have been issued by the Director of ~~Public Works~~ Municipal Services.
6. Following the issuance of the permit provided for herein, actual construction operations shall not be started until at least 48 hours after the Director of Community Development, or his designee has been notified as to the time, location and scope of the construction.

7. All construction work may be stopped at any time by the Director of Community Development or an agent, when in the opinion of the Director, the workmanship, materials used, or procedures of work do not meet the requirements or comply with the City codes, ordinances, specification and procedures for such work.
8. All work accomplished by means of a permit issued under this article shall be subject to final inspection and approval for City maintenance by the Director of Community Development.
9. Detention basins or approved interim facilities shall be constructed prior to the development of any impervious area.

Sec. 20.18.002. Penalty.

Any person, firm, or corporation who shall violate any of the provisions of this article shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be subject to a fine of \$50.00 and each and every day on which said violation continues shall constitute a separate offense.

Secs. 20.1805.0032—20.1805.999. Reserved.

ARTICLE 19.6. USE OF PUBLIC RIGHTS-OF-WAY

Sec. 20.1906.001. Scope.

The provisions of this article shall, to the extent permitted by law, apply to all persons desiring to perform work, construct, operate, or maintain facilities in, along, across, under or over public rights-of-way within the City.

Sec. 20.19.002. Definitions.

For the purposes of this article, the following terms, phrases, words, and abbreviations shall have the meanings given herein. The words "shall" and "will" are mandatory, and "may" is permissive.

APPLICANT means the specific person applying for and receiving a right-of-way permit.

APPLICATION means that form designed by the Public Works Department which an applicant must use to obtain a permit to conduct facilities work across, over or under the City's public rights-of-way.

CITY shall mean the City of Independence, Missouri.

DIRECTOR shall mean the Director of Public Works or any designee.

EXCAVATION means any act by which earth, asphalt, concrete, sand, gravel, rock or any other material is cut into, dug, uncovered, removed, displaced, relocated or bulldozed, and shall include the conditions resulting therefrom.

FACILITIES means any new conduit, duct, line, pipe, wire, hose, cable, culvert, tube, pole, receiver, transmitter, satellite dish, micro cell, Pico cell, repeater, amplifier, or other device, material, apparatus, or medium, useable (whether actually used for such purpose or not) for the transmission or distribution of any service or commodity installed below or above ground within the public rights-of-way of the City, whether used privately or made available to the public. This definition also includes maintenance of existing facilities which require a sidewalk or pavement cut.

PERMIT means a permit granted by the Public Works Director to perform work within the public rights-of-way, as per Chapter 17, Article 5.

PERSON shall mean an individual, partnership, association, joint stock company, trust, organization, limited liability company, corporation, or other entity, or any lawful successor thereto or transferee thereof.

PUBLIC RIGHTS-OF-WAY means the surface, the air space above the surface, and the area below the surface of any public street, highway, lane, path, alley, sidewalk, boulevard, drive, bridge, tunnel, parkway, easement, or other similar property in which the City now or hereafter holds any property interest, which was dedicated as rights-of-way. No reference herein, or in any permit, to "public rights-of-way" shall be deemed to be a representation or guarantee by the City that its interest or other right to control the use of such property is sufficient to permit its use for such purposes. "Public rights-of-way" does not include the airwaves above the rights-of-way

with regards to cellular or other non-wire telecommunications or broadcast services, or easements obtained by private or public utilities or private easements in platted subdivisions or tracts.

Sec. 20.1906.0032. Permitting provisions for the construction of new facilities.

Any person desiring to construct facilities in, along, across, under, or over public rights-of-way or any person desirous to maintain or repair facilities that require cutting into the public rights-of-way must complete all required registration, obtain all required permitting, and follow all required procedures set forth herein and in accordance with the provisions set forth in Chapter 17, Article 5 and all other local state, and federal requirements.

Sec. 20.19.004. ~~Construction standards for new and existing facilities.~~

- A. ~~The construction, operation, maintenance, and repair of facilities in the right-of-way shall be in accordance with applicable health, safety and construction codes as well as those standards promulgated by the Director.~~
- B. ~~The pavement or sidewalk shall be opened by saw cutting, or other prior approved method, the pavement in straight lines to form a square or rectangular shape.~~
- C. ~~Backfill material under pavement or sidewalk shall be untreated, compacted aggregate meeting the requirements of the Public Works Manual, Article 6, unless other materials are approved by the Director of Public Works. If clean gravel is permitted, the cut shall either be covered by secure acceptable plates or temporarily patched with cold mix asphaltic concrete.~~
- D. ~~Compaction of backfill will meet the following standards:~~
 - 1. ~~All backfill under pavement or sidewalk shall be compacted to 95 percent of maximum density as determined by A.S.T.M. D-698.~~
 - 2. ~~All backfill within the public rights-of-way not under pavement or sidewalk shall be compacted to 90 percent of maximum density as determined by A.S.T.M. D-698.~~
- E. ~~Untreated, compacted aggregate shall be placed to the level of the area surrounding the excavation and extended to a minimum of ten feet beyond the edge of pavement. Crushed rock bedding material meeting the requirements of the Public Works Manual, Article 8, shall be placed around the pipe or structure being backfilled to a point six inches above the top of the pipe or structure, except for gas lines.~~
- F. ~~The thickness of the replacement pavement or sidewalk shall be equal to or greater than the thickness of the pavement or sidewalk that was cut, but in no case shall the replacement pavement be less than eight inches for roadways, six inches for driveways, or four inches for sidewalks. Pavement shall be replaced in kind, except that a minimum of eight inches of portland cement concrete base and two inches of asphaltic concrete surface is required in asphalt roadways. Asphalt pavement must be sawcut 12 inches on all sides beyond the excavation limits so that the concrete base edges are placed on undisturbed material, except for cuts not exceeding eight inches in width. The concrete base and existing pavement edges must be tack coated with liquid asphalt prior to placement of the asphalt surface.~~

Sec. 20.1906.0053. Performance guarantees and remedies.

At reasonable discretion of the Director, and in accordance with the provisions set forth in Chapter 17, Article 5, a performance bond shall be issued by a surety acceptable to the City, and shall contain the following endorsement: "This bond may not be canceled, or allowed to lapse until 60 days after receipt by the City, by certified mail, return receipt requested, of a written notice from the issuer of the bond of intent to cancel or not to renew."

Sec. 20.1906.0064. Miscellaneous provisions.

- A. Any permit granted pursuant to this article, Chapter 17, Article 5, and any applicable local, state, and federal laws shall by implication include a provision that shall incorporate by reference this article into such permit as fully as if copied therein verbatim.
- B. If any term, condition, or provision of this article shall, to any extent, be held to be invalid or unenforceable, the remainder hereof shall be valid in all other respects and continue to be effective. In the event of a subsequent change in applicable law so that the provision that has been held invalid is no longer invalid, said provisions shall thereupon return to full force and effect without further action by the City and shall thereafter be binding on the applicant and the City.

Sec. 20.1906.0075. Annexation.

The provisions hereof shall specifically apply to any lands or property annexed as of the date of such annexation.

Sec. 20.1906.0086. Standards applicable to eCity.

Any standards in this article relating to facilities work shall be fully applicable to work performed by the City and its departments.

Sec. 20.19.009. Neighborhood block party permits.

~~The neighborhood block party permit authorizes the applicant to barricade a specified portion of the named residential street, using City-approved barricades, denying access to through traffic (except emergency vehicles and residents who reside within the barricaded area) to conduct a neighborhood block party. Neighborhood block party permits shall be issued without charge.~~

~~The applicant must be either a neighborhood resident or the neighborhood homes association group. The application shall be made on a form provided by the director. The applicant must provide evidence on the application form that all the residents who live in the blocked-off area have been notified in writing of the proposed neighborhood block party and that a minimum of 60 percent of those residents are in favor.~~

~~Neighborhood block parties shall be conducted only between the hours of 7:00 a.m. and 10:00 p.m. The applicant is responsible for post-event cleanup on the street, sidewalks and public rights-of-way.~~

Sec. 20.19.010. Plated cuts.

~~If plates are used to cover a roadway excavation during the period from November 1 to March 31 the Director of Public Works shall be notified. Additionally, a lighted barricade shall be placed beside the roadway at the location of the plate. The Director may deny the use of plates during the aforementioned period of time, set restrictions on use of plates, and may direct the removal of plates at any time. The Right-of-Way User and approved, registered contractors, in accordance with Chapter 17, Article 5, are responsible for the maintenance of plates on the roadway at all times and must be available to repair, replace, or remove plates at all times during their use.~~

Sec. 20.19.011. Penalty.

~~Any person, firm, or corporation who shall violate any of the provisions of this article shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be subject to a fine of not less than \$100.00 nor more than \$500.00 for each violation. Each day's continuation of a violation shall constitute a separate offense. Any person, firm, or corporation who shall place the facility outside where they are supposed to be, shall have no claim against the City for relocation.~~

Secs. 20.1906.01207—20.1906.999. Reserved.

ARTICLE 20 7. CONDEMNATION

Sec. 20.2007.001. Condemnation proceedings.

All proceedings for the condemnation of property, or in the exercise of the right of eminent domain, shall be in accordance with RSMo 88.010 to 88.130 and any other general provisions of State law relating thereto.

Secs. 20.2007.002—20.2007.999. Reserved.

ARTICLE 21 8. TRAFFIC CALMING DEVICES

Sec. 20.21.001. Scope.

~~This article governs all protocol required to evaluate requests for traffic calming devices on existing streets and the construction of devices which are intended to achieve traffic calming in new development.~~

Sec. 20.21.002. Definitions.

~~For the purposes of this article the following terms, phrases, words and their derivations shall have the meaning given herein. When not inconsistent with the context, words used in the present tense include the future, words used in the plural include the singular, and words used in the singular include the plural.~~

The word "shall" as used herein is not merely directory but is considered mandatory.

~~85TH PERCENTILE SPEED~~ means the speed at which 85 percent of drivers drive at or below during a 24-hour period.

~~ADT~~ means the 24-hour average daily traffic count.

~~HORIZONTAL DEFLECTION DEVICES~~ means the traffic calming devices which cause traffic to deflect horizontally from the normal driving path.

~~IMPACT AREA~~ includes the street or intersection under review and the immediate area around it. The Traffic Calming Committee will define the boundary of the impact area based upon the existing or proposed street network.

~~RESIDENTIAL STREET~~ means the classification assigned to streets whose primary function is to provide direct access to adjacent residential properties.

~~TRAFFIC CALMING~~ means the combination of mainly physical measures that reduce the negative effects of motor vehicles, alter driver behavior, and improve conditions for non-motorized street users.

~~TRAFFIC CALMING COMMITTEE~~ consists of five members including the Public Works Traffic Engineer, Public Works Chief Engineer, and one representative each assigned by the Community Development Director, Police Chief, and Fire Chief.

~~VERTICAL DEFLECTION DEVICES~~ means traffic calming devices which cause traffic to deflect vertically from the normal driving elevation.

Sec. 20.2108.0031. Traffic calming on existing streets.

~~Traffic calming requests from residents or homeowner/neighborhood associations for traffic calming on existing streets shall be in writing and must be submitted to the Director of Public Works~~Director of Municipal Services or their authorized designee. Traffic Calming on existing streets shall follow the Traffic Calming Program Guidelines as outlined in the Design and Construction manual. All letters shall identify an appropriate point of contact and be endorsed by signatures from at least five property owners owning property within a 1,200 foot section of the particular street to be considered. ~~All requests will be acknowledged in writing.~~

~~Based on traffic history, the Public Works Department may initiate traffic studies and recommend streets for traffic calming devices without initiation by neighborhood request.~~

~~The Police Department, schools, or other service agencies may request traffic studies be undertaken to determine the suitability of traffic calming for particular concerns.~~

Sec. 20.21.004. Existing streets eligibility.

~~For streets under consideration for traffic calming, the Traffic Engineer will inventory the street for geometric features, sidewalks, roadside ditches, and nearby public facilities and conduct a study of the street to determine prevalent speeds and traffic volumes. The traffic study will be converted to a point system where points are assigned for the 85th percentile traffic speed, traffic volumes, traffic calming effect upon emergency services, accident trends, street proximity to schools and presence of sidewalks. The greater number of points assessed to a street indicates a greater potential for traffic calming impact.~~

~~General eligibility requirements are that traffic on the street must be predominately residential in nature, the street must be an uncontrolled segment length of 600 feet or greater, and the project must be supported by at least 70 percent of households on properties adjacent to the proposed street segment.~~

~~Streets may be ineligible for traffic calming if one or more of the following issues exists:~~

- ~~1. Excessive traffic volume would be diverted to other residential streets.~~
- ~~2. Grades, curvature, or other physical conditions make, in Public Work's judgement, the application of traffic calming unsafe.~~
- ~~3. The street is used as a routine emergency service route or a major public transit route.~~
- ~~4. The street is scheduled for resurfacing within the next two budget years. If meeting all other criteria, such streets would become eligible for traffic calming following the completion of resurfacing.~~

Sec. 20.21.005. Traffic calming committee.

The Traffic Calming Committee will evaluate the traffic study findings and be the final arbiter to determine eligibility for traffic calming. Other duties include defining the impact area and discussing the findings with the citizen point of contact defined in the letter of request. When the Traffic Calming Committee finds that a project meets criteria, Public Works will proceed with design and cost estimate. The Traffic Calming Committee shall review the design and be present to discuss the design at neighborhood meetings or other venue for citizen review and discussion.

Sec. 20.2108.01102. Traffic calming in new development.

Public Works The Municipal Services and Community Development departments will review new plans and recommendations as part of the project approval process defined in Chapter 14, Planning, Zoning, Subdivisions, Mobile Homes.

Designers for new developments shall use best management practices available for traffic calming device designs.

Sec. 20.21.012. Traffic calming standards.

- A. *Speed Humps.* Documents used for design reference for speed humps may include the "Guidelines for the Design and Application of Speed Humps", a Recommended Practice of the Institute of Transportation Engineers (ITE), June 1997. Primary aspects for speed humps include:
1. For uncontrolled lengths of street between 600 feet and 1,000 feet in length, one speed hump shall be installed as near as practicable to the midpoint of the segment.
 2. For uncontrolled lengths of street over 1,000 feet in length, speed humps shall be spaced at intervals of at least 300 feet and not exceeding 600 feet.
 3. Parking restrictions may be necessary to insure the visibility of accessory traffic signs or to comply with provisions of Missouri law where speed humps are used as pedestrian crosswalks.
 4. Design of speed humps shall generally conform to the parabolic profile (12 feet or 14 feet in length) or a "flat-top" profile (22 feet in length) for planned pedestrian use.
- B. *Roundabouts.* Reference documents for design of roundabouts may include "Roundabouts: An Informational Guide" as published by the U.S. Department of Transportation Federal Highway Administration. Primary characteristics of roundabouts include:
1. Vehicles entering the roundabout on all approaches are required to yield to vehicles within the circulating roadway.
 2. All vehicles circulate counterclockwise, passing to the right of the central island.
 3. The speed at which a vehicle is able to negotiate the circulating roadway is controlled by the location of the central island with respect to the alignment of the right entry curb and the circulating roadway cross-section.
 4. Roundabouts shall be one-lane unless it is shown that traffic volumes necessitate a two-lane design.
 5. Parking prohibitions may be necessary to insure unrestricted access around the roundabout and no pedestrian activities will take place on the central island.
 6. Signage and pavement markings shall be included in the design.
 7. Some type of aesthetic treatment (brick inlay and/or landscaping) will be used in the design of the roundabout.
 8. Sidewalks may be incorporated into the design where right-of-way is available.
 9. Any associated sidewalk work shall have wheelchair ramps constructed.

C. ~~Other Traffic Calming Devices.~~ As design guidelines are published by recognized authorities in transportation engineering such as the Institute of Transportation Engineers or the Federal Highway Administration, those guidelines will be used as resource for best design practices.

Secs. ~~20.2108.013003—20.2108.999.~~ Reserved.

ARTICLE 22. REGIONAL DETENTION BASIN OPTION

Sec. ~~20.22.001.~~ Scope.

~~This article establishes the procedure to determine if contribution to a regional detention basin can be made in lieu of on-site detention required in Article 2 of the Public Works Design and Construction Manual, and determines what the amount of contribution would be if contribution is approved.~~

Sec. ~~20.22.002.~~ Definitions.

~~For the purposes of this article the following terms, phrases, words and their derivations shall have the meaning given herein. When not inconsistent with the context, words used in the present tense include the future, words used in the plural include the singular, and words used in the singular include the plural.~~

~~The word "shall" as used herein is not merely directory, but is considered mandatory.~~

~~ON-SITE DETENTION means storm water storage in acre-feet, with a controlled release rate within a development property as computed in accordance with applicable provisions contained herein and approved by the Public Works Director.~~

~~REGIONAL DETENTION means storm water storage in acre-feet with a controlled release rate that is to be provided off site in accordance with the applicable provisions contained herein and approved by the Public Works Director.~~

Sec. ~~20.22.003.~~ Participation guidelines.

~~It shall be the duty of the Public Works Director to determine if a proposed development will qualify for participation in a regional detention basin in lieu of constructing on-site detention. Participation shall only be approved when it has been determined that allowing non-detained runoff to the area does not have an adverse impact on the watershed as determined by flow studies sealed by a Professional Engineer and approved by the Public Works Director. The flow studies are to be done using the methodology allowed in Article 2 of the Public Works Manual. Participation shall only be considered for projects in the following locations:~~

- ~~1. The site storm water discharge is directly to a Little Blue River, Big Blue River or Missouri River tributary within a distance of 1,200 feet of the confluence with such stream, or a distance approved by the Director, or~~
- ~~2. The site storm water discharge is directly upstream from existing regional detention basin facilities, or~~
- ~~3. The site storm water discharge is directly to a regulatory flood plain with no evidence of flooding from the direct discharge, or~~
- ~~4. The site storm water discharge is directly to a channel where a planned regional basin will offset the increased flow rate.~~

~~Participation may be requested by the developer or the Public Works Director, however, participation must be by mutual agreement. The decision of the Director to not participate cannot be appealed to the Board of Building and Engineering Appeals.~~

Sec. ~~20.22.004.~~ Participation cost.

~~The participation cost shall be based on the product of the unit cost per acre-foot of storage required to locate, acquire, engineer, permit, construct and maintain a regional detention or retention basin and the total acre-feet of storage required as on-site detention as required in Article 2 of the Public Works Manual. The participation cost shall be paid at the time of the first construction or building permit for the project.~~

~~The unit cost per acre-foot of storage as listed in the Schedule of Fees shall include, but not be limited to the following: Land price, appraisals, legal costs, other easements, permits, administration, engineering, inspection, survey, construction and maintenance. Maintenance will be based on a 30-year life. A credit to the costs above may~~

be allowed for unique storm water features that will be required by the Public Works Department in cases where detention or retention is not placed on site. Any credits determined and authorized by the Public Works Director shall not exceed \$1,500.00 per acre foot. Each year, the unit cost per acre foot shall be adjusted to reflect contemporary pricing and the construction cost shall be adjusted using the construction cost index as approved by the Water Pollution Control and Public Works Directors. Any adjustment to the unit cost per acre foot, including calculations, shall be filed with the City Clerk.

Sec. 20.22.005. Regional detention basin fee.

The participation cost fee collected shall be deposited in the Storm Water Fund and shall be used for or applied to the construction and maintenance of a regional detention or retention basin or other storm water improvements within the Little Blue River, Big Blue River or Missouri River Basins or any of the tributary watersheds, as determined by the Water Pollution Control Director.

Sec. 20.22.006. Application and approval.

Application for participation shall be made to the Public Works Director on an application form provided by the Public Works Department, and must include the flow study as required herein. The application for participation must be approved by the Public Works Director before any Council action is taken to approve development on the property and the Director's approval shall be noted in the information provided to Council at the first time any resolution or ordinance related to the development is presented to the Council. The action by the Council on the ordinance shall constitute approval of the payment in lieu of on-site detention.

Secs. 20.22.007 — 20.22.999. Reserved.

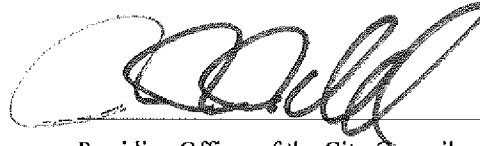
SECTION 2: Savings Clause. Nothing in this ordinance shall be construed to affect any suit or proceeding now pending in any court or any rights acquired, or liability incurred nor any cause or causes of action occurred or existing, under any act or ordinance repealed hereby. Nor shall any right or remedy of any character be lost, impaired, or affected by this ordinance.

SECTION 3: Severability Clause. If any section, subsection, sentence, clause, or phrase of this ordinance is for any reason held to be invalid, such decision shall not affect the validity of the remaining portions of this ordinance. The Council hereby declares that it would have adopted the ordinance and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared invalid.

SECTION 4: That all other parts and provisions of the City Code shall be in full force and effect unless previously or subsequently amended or repealed.

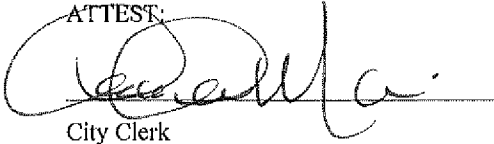
SECTION 5: That correction of any scrivener's errors identified within these articles are hereby authorized by this ordinance.

PASSED THIS 18th DAY OF September, 2023, BY THE CITY COUNCIL OF THE CITY OF INDEPENDENCE, MISSOURI.



Presiding Officer of the City Council
of the City of Independence, Missouri

ATTEST:


City Clerk

APPROVED - FORM AND LEGALITY:



City Counselor

REVIEWED BY:



City Manager

NOTE: Words struck through are being removed by this ordinance and words underscored and bolded are being added by this ordinance.