



## APPENDIX F

### **Municipal Code Chapter 5, Article VI. Storm Water Management**

The contents of this manual provide guidelines for meeting the Infill Development Storm Water Management regulations as stated in the municipal code. A copy of the ordinance in its entirety begins on the following page.



BILL 10702

ORDINANCE

AN ORDINANCE AMENDING CHAPTER 5 BY CREATING A NEW ARTICLE VI. “INFILL DEVELOPMENT STORM WATER MANAGEMENT”, REDESIGNATING ARTICLE VI “FEE SCHEDULE” TO A NEW ARTICLE VII. AND AMENDING VARIOUS SECTIONS OF THE CODE FOR CONSISTENCY.

WHEREAS, the City has been working with a consultant on the best management practices for storm water management for infill development, and

WHEREAS, the City Council believes it is in the best interest of Kirkwood citizens to amend the Code to include a section entitled an “Infill Development Storm Water Management.”

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

SECTION 1. Chapter 5, Article VI “Fee Schedule” is hereby redesignated as Article VII. and a new Chapter 5, Article VI “Infill Development Storm Water Management” is hereby created as follows:

**ARTICLE VI. INFILL DEVELOPMENT STORM WATER MANAGEMENT**

**Sec. 5-200. Purpose**

The purpose of this ordinance is to provide storm water rules, regulations and standards to establish best management practices (BMP’s) for infill development within the City of Kirkwood, Missouri, in order to promote the public health, safety, convenience and general welfare of the municipality.

**Sec. 5-201. Definitions**

*Best Management Practice (BMP)* means a structural device, measure, facility, or activity that helps to achieve storm water management control objectives at a designated site.

*Impervious Area (IA)* means the portion of a parcel of property that is covered by any material, including without limitation roofs, streets, sidewalks and parking lots paved with asphalt, concrete, compacted sand, compacted gravel or clay, that substantially reduces or prevents the infiltration of storm water. Impervious area shall not include natural undisturbed surface rock.

*Infill Development Storm Water Guidance Document* means the latest edition of the manual “Storm Water Management Guidance, City of Kirkwood Green Infrastructure Techniques for Storm Water Management” maintained by the Department of Public Services.

*Lot* means a tract, plot or portion of a subdivision or parcel of land intended as a unit for the purpose, whether immediate or future, for transfer of ownership or for building development.

*Maintenance Agreement* means an agreement between the current property owner and the City where the property owner agrees to maintain any installed BMPs on the property.

*Net Additional Impervious Area* means the impervious area calculated by subtracting the present impervious area in the most currently available aerial photography data or current site survey from the proposed post-



development impervious area and maintaining the original property boundary as the regulated project boundary, regardless of subdivision, re-plat, horizontal property regime, or any other modification of property boundaries by deed or plat.

*Plan* means a document approved at the site design phase that outlines the measures and practices used to control storm water runoff at a site.

*Regulated Infill Development* means the creation of Net Additional Impervious Area of at least 1,000 square feet or causing the total impervious area on the lot to be twenty-five (25) percent or greater of the total lot area for commercial, industrial, or residential real property through new development, redevelopment, or rehabilitation of existing lots.

*Storm Water* means any surface flow, runoff and drainage consisting entirely of water from any form of natural precipitation and resulting from such precipitation.

*Vacant Lot* means any lot containing no current permanent structure(s) and no permanent structures visible on the aerial photography dated 2001 maintained by the City.

#### **Sec. 5-202. Regulated Infill Development – Requirements**

All Regulated Infill Development shall not proceed without a permit and shall meet the requirements of this section.

- (a) All Regulated Infill Development creating one thousand (1,000) square feet or more of Net Additional Impervious area is required to treat, by means of capture, the first 1.14” of rainfall runoff, for impervious area equal to the Net Additional Impervious Area. Vacant Lots shall be subject to this requirement.
- (b) All Regulated Infill Development causing the total impervious area on the lot to be twenty-five (25) percent or greater of the total lot area are required to treat, by means of capture, the first 1.14” of rainfall runoff, for the amount of impervious area greater than twenty-five (25) percent of the total lot area or the Net Additional Impervious Area, whichever is greater.
- (c) All Regulated Infill Development required to provide storm water quality or quantity control BMP’s by the Metropolitan St. Louis Sewer District MSD shall be exempt from the requirements of items (a) and (b) of this section.
- (d) All new development and redevelopment sites that disturb greater than or equal to one (1) acre, including projects that are part of a larger common parcel or project that is greater than one (1) acre shall have development plans submitted to the Metropolitan St. Louis Sewer District (MSD) for review and approval prior to the issuance of any building permits.
- (e) All development proposed for commercial, industrial, or multi-family use regardless of disturbed area shall have development plans submitted to the Metropolitan St. Louis Sewer District (MSD) for review and approval prior to the issuance of any building permits.
- (f) Construction of an approved storm water BMP(s) shall not require a separate permit if installed in conjunction with associated construction activities requiring a permit from the Department of Public Services.



- (g) Approved storm water BMP(s) constructed in association with any permitted work not requiring a Residential Site Restoration Escrow or Performance Guarantee shall require a Storm Water BMP Construction Escrow as set forth in Chapter 5, Article VII Fee Schedule.
- (h) All Regulated Infill Development shall comply with the provisions of Chapter 5, Article V of this code.
- (i) All Regulated Infill Development shall comply with all applicable provisions of Appendix A – Zoning Ordinance §10103

The owner/developer of a project qualifying as Regulated Infill Development shall endeavor to treat the first 1.14” of rainfall runoff from the net added impervious area using methods from the Infill Development Storm Water Guidance Document. If this treatment proves impractical, improving downstream drainage to mitigate a known flooding problem with assistance from a professional engineer may be considered for all or part of the 1.14” treatment requirement. Final determination of allowable alternate method to be made by Director of Public Services.

#### **Sec. 5-203. Sump Pumps**

- (a) All projects which include the installation of sump pumps or existing sump pumps with discharges causing a nuisance per Chapter 16 Section 2 of this code must discharge to one of the following BMP’s per the Infill Development Storm Water Guidance Document:
  - (1) Drywell sized to treat a minimum of 175 square feet of contributing area and located a minimum of 10’ from any property line, or
  - (2) Vegetated filter strip sized to treat a minimum of 175 square feet of contributing area and sump pump discharge located a minimum of 20’ from any property line.
- (b) BMP’s for sump pump discharges listed in this section may contribute to the required BMP’s for Regulated Infill Development by section 5-202.

#### **Sec. 5-204. Storm Water Design Manual**

The Director of Public Services shall maintain the “Storm Water Management Guidance, City of Kirkwood Green Infrastructure Techniques for Storm Water Management” as adopted by resolution by the City Council. The latest version as adopted by resolution by the City Council shall be followed by all persons planning or constructing Regulated Infill development within the city limits.

#### **Sec. 5-205. BMP Maintenance and Inspection**

- (a) Prior to the issuance of any permit for a development involving any Regulated Infill storm water BMP, the owner(s) of the site must execute a maintenance agreement that shall be binding on all subsequent owners of land served by the storm water BMP. The agreement shall provide for access to the BMP and the land it serves at reasonable times for periodic inspection by City or City’s designee and for regular or special evaluations of property owners to ensure that the BMP is maintained in proper working condition to meet City storm water requirements. The maintenance agreement shall be recorded with St. Louis County Recorder of Deeds and a recorded copy of the agreement shall be provided to the City by the owner prior to issuance of any permit.



- (b) The owner(s) of every regulated infill development site shall be responsible for maintaining storm water BMPs in an effective state as determined in the sole judgment of City after completion of construction.
- (c) Occupancy permits shall not be granted until all storm water BMPs have been inspected and approved by City.

#### **Sec. 5-206. Enforcement – Notice of Violation**

Whenever the Director or the Director's designees, including inspectors within the City's Department of Public Services, find that a person has violated the terms of the maintenance agreement or failed to meet a requirement of this Chapter, the Director or his or her designee may order compliance in accordance with procedures set forth in Chapter 5, Article III Property Maintenance Code.

#### **Sec. 5-207. Violation Penalties**

Violation of the provisions of this ordinance or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with granting of variances) shall be subject to penalties in accordance with Chapter 5, Article III Property Maintenance Code.

SECTION 2. Chapter 5, Article VII "Fee Schedule" is hereby amended to add the following table to Section 5-109:

**TABLE 3 – ESCROWS**

<b>Item</b>	<b>Amount</b>	<b>Remark</b>
Residential Site Restoration Escrow	\$5,000.00	100% refundable upon final inspection and acceptance by the Department of Public Services
Storm Water BMP Construction Escrow	\$1,000.00	100% refundable upon final inspection and acceptance by the Department of Public Services

SECTION 3. Amend Chapter 5, Section 5-21 is hereby amended to add the following to the 2009 International Property Maintenance Code:

PM 302.11 –Storm water BMP's: All storm water BMP facilities shall be maintained in an effective state and operate as designed per the City of Kirkwood Infill Development Storm Water Guidance Document and per the recorded Storm Water Management BMP facilities maintenance agreement.

PM 202 – General Definitions:

*Best Management Practice (BMP)* means a structural device, measure, facility, or activity that helps to achieve storm water management control objectives at a designated site.

*Storm Water* means any surface flow, runoff and drainage consisting entirely of water from any form of natural precipitation and resulting from such precipitation.

*Storm Water Management BMP Facilities Maintenance Agreement* means an agreement between the current property owner and the City where the property owner agrees to maintain any installed BMPs on the property.

SECTION 4. Chapter 16 is hereby amended to include the following:



**Sec. 16-2. Nuisances enumerated.**

- (q) Any water discharge causing dirt, mud, ice or filth, caused or permitted on any private sidewalk, driveway, or patio creating a hazard to users of the premises.

SECTION 5. Chapter 17, is hereby amended by deleting Section 17-242 (a) and (c) in its entirety and inserting the following:

**Sec. 17-242 Water Control.**

- (a) No person shall direct storm water or sump pump discharge water through a pipe, culvert, or drain, which discharges within ten feet of the adjacent property line except for (1) house roof or foundation drains, which may be discharged within two feet of the house foundation, (2) discharge into an open natural swale or creek on the same property.
- (c) No person shall direct water through a pipe, culvert, drain, or sump pump across a public sidewalk, private driveway, walkway, or patio. Water may be directed to the street pavement or a pipe may be connected to a public storm sewer inlet providing the system is maintained by the property owner and received approval from the Metropolitan St. Louis Sewer District.

SECTION 6. This Ordinance shall be in full force and effect after its passage and approval, as provided by law.

PASSED AND APPROVED THIS 3<sup>rd</sup> DAY OF JANUARY, 2019

Tim Griffin

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Mayor, City of Kirkwood

ATTEST:

Laurie Asche

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City Clerk

1<sup>st</sup> Reading: December 20, 2018

2<sup>nd</sup> Reading: January 3, 2019