

THIS BILL AS APPROVED SHALL BECOME ORDINANCE NUMBER 5816 AND SHALL AMEND CHAPTER 13.08, ARTICLE II - STORMWATER MANAGEMENT WITHIN THE CITY OF SIKESTON, MISSOURI.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SIKESTON, MISSOURI AS FOLLOWS:

SECTION I: This Ordinance shall be codified in Chapter 13.08, Article II of the City Municipal Code.

SECTION II: Chapter 13.08, Article II, Sections 13.08.380 through 13.08.540 are amended to read as follows:

**13.08.380 (700.030) IMPROVEMENTS – PERMIT REQUIRED**

No person may make any improvements or change in the use, arrangements, or appearance of any structure or land without first obtaining a permit from the City of Sikeston, in the manner set forth in this article, and in any and all other applicable ordinances in affect in this City. (R.O. 2009 §13.09.380; Ord. 5816 §II, 2010; Ord. 4101 §1, 1980)

**13.08.390 (700.040) ACTIVITIES THAT REQUIRE PERMIT**

For purposes of this article, the following activities may potentially alter or disrupt the natural stormwater runoff patterns and as such will require a permit prior to the initiation of any such project.

- A. Clearing and/or draining of land as an adjunct to construction;
- B. Clearing and/or draining of land for agricultural purposes;
- C. Converting agricultural lands to nonagricultural uses;
- D. Subdividing land into two or more parcels;
- E. Replatting recorded subdivisions and the development of unrecorded subdivisions;
- F. Changing the use, arrangement, appearance, intensity or density of structures or land;
- G. Altering the shoreline or bank of any surface water body;
- H. Any activities which disturb one (1) acre or more of pervious surface, with the exception of farming activities; and
  - I. Creating and/or increasing pervious surface, either building or parking area, with an area of greater than 2,000 square feet. (R.O. 2009 §13.08.390; Ord. 5816 §II, 2010; Ord. No. 4101 §3 1980)

**13.08.400 (700.050) PERFORMANCE STANDARDS**

Stormwater management control standards shall meet the following performance standards and requirements:

- A. The surface runoff from the developed site shall approximate the hydrograph, in terms of peak flow, for a two-year frequency storm for the undeveloped, natural site. In addition the shape and timing of the outflow hydrograph on downstream

flow and water quality conditions shall be assessed.

- B. Historical rates and volumes of stormwater runoff, whether discharged into natural drainage corridors or artificial drainage systems, shall meet existing water quality standards at the point of discharge. Discharge points shall be designed to prevent erosive velocities.
- C. Runoff computations shall be based on the most critical situation (rainfall duration and distribution) and conform to acceptable engineering practices using rainfall data and other local information applicable to the affected area.
- D. Retention or Detentions Structures and attenuation devices
  - 1. Retention or detention structures and attenuation devices in subdivision projects shall be on private property, except where it is determined, through the subdivision review process, that there will be a public benefit and that specific public benefit is desirable in the proposed location. Maintenance responsibility shall remain with the property owner on which the structure is located.
  - 2. To determine the desirability and feasibility of public ownership and public maintenance of a retention or detention structure and attenuation devices the following items shall be considered in, but not limited to, the following evaluations.
    - a) Size of the development project;
    - b) Type of retention or detention facility;
    - c) Multiple uses of the area;
    - d) Maintenance costs involved;
    - e) Effective of stormwater control; and
    - f) Relationship to the overall development. (R.O. 2009 §13.08.400; Ord. 5816 §II, 2010; Ord. No. 4101 §6(part), 1980)

**13.08.410 (700.060) DESIGN CRITERIA**

The following criteria are to be applied in the design and development of stormwater drainage facilities:

**A. Stormwater Collection Systems**

- 1. Design Frequency. Ten-year frequency rainfall amounts from technical papers published by the U. S. Weather Bureau shall be used to determine the discharges for the design of storm sewers, inlet capacities and such appurtenances.
- 2. Hydrologic Design. Hydrologic designs and summary runoff computations shall be prepared by a professional engineer registered in the State of Missouri, and must be made using the Rational Method (with “C” factors based upon percent of impervious site area from the tabulation in this paragraph), Soil Conservation Service Technical Release 55 (TR-55) or other technical method acceptable to the City. If other methods than the two noted herein are proposed then approval must be obtained from the City.

<u>% Impervious</u>	<u>Rational C Factor</u>
5	0.37
10	0.39

20	0.44
30	0.48
40	0.52
50	0.56
60	0.60
70	0.64
80	0.68
90	0.73
100	0.77

3. Hydraulic Design. Hydraulic computations for pipes and ditches shall use open-channel, pressurized pipe, culvert, orifice and weir equations and coefficients generally accepted by the civil engineering community. The project engineer shall clearly document the sources used for hydraulic design.
4. Conveyance on Streets. The 10-year storm flow shall be allowed to be conveyed on all streets to a depth of 2 inches above the roadway centerline, but in no case shall the stormwater extend either to more than 14 feet beyond the edge of pavement or back of curb or outside the street right-of-way.
5. Maintenance during Construction.
  - a) Straw bale barriers, silt fences or similar erosion control features must be provided during construction to control the transport of silt from the site and into the public streets or stormwater system.
  - b) Seeding and mulching or sodding of earthen improvements must be made as soon as possible after completion of the improvements.
  - c) Prior to acceptance by the City all features must be free of sediment and a sufficient stand of grass or other protective measures must be established to retard erosion and control the transport of sediment.
  - d) If the Developer fails to provide adequate maintenance and the facilities become inoperative or ineffective, the City of Sikeston may perform remedial work at the Developer's expense.

**B. Stormwater Detention or Retention Facilities**

1. When Required. Detention or retention systems will be required for development sites from which the post-development 10-year discharge would exceed the 10-year pre-development discharge and where the existing downstream drainage facilities have inadequate capacity to accept the additional post-development discharge from the site. Design computations will be required to demonstrate that no detention is required. Developments without detention or retention must be individually approved by the City Manager or his designee.
2. Detention Design Frequency. Detention basins shall be designed to receive the 10-year post-development discharge and limit the maximum discharge from the site to the two-year pre-development discharge. Computations must be provided for the basin volume and for the performance of the control structure.

3. Detention Volume for Sites of 20 Acres or Less. For sites of 20 acres or less the volumes for detention basins shall be determined by either a routing of the 10-year hydrograph through the basin and control structure by an acceptable computer-based hydraulic routing program or by providing a volume equivalent to provided 1800 seconds of storage of the difference between the 10-year peak post-development discharge and the two-year peak pre-development discharge.
4. Detention Volume for Sites of over 20 Acres. For sites of over 20 acres the volumes for detention basins must be determined by routing the 10-year hydrograph through the basin and control structure with an acceptable computer-based hydraulic routing program.
5. Retention Basin Design Stormwater retention basins or hybrid detention/retention basins may be used to take advantage of soil infiltration to reduce the peak rate of discharge. Discharge from such basins shall not exceed the 2-year pre-development flow. Design seepage rates shall not be more than 10 percent of that observed by onsite percolation tests or indicated by soil report data. The total volume of no-discharge retention-only basins shall not be less than that required to contain the total volume of runoff from an 8.5-inch rainfall event as indicated by Table 2-1 of TR-55.
6. Forms of Detention and Retention. Detention and retention basins may be provided in the following forms:
  - a) Drain-dry earthen basins with maximum 4:1 side slopes, concrete lined low-flow channels and a 1-foot minimum freeboard,
  - b) Permanent ponds with maximum 4:1 side slopes, minimum permanent water depth of 3 feet and 2-foot minimum freeboard,
  - c) Underground piping and basins with provisions for silt control and removal,
  - d) Parking lots to a maximum depth of 12 inches.
  - e) The above list of design options is not intended to preclude the use of innovative design concepts.
7. Detention and Retention Facility Design and Site Details. The design and site details for detention and retention basins must provide for the following:
  - a) Adequate space and legal authority for access (a minimum of 15 feet around top of slopes) must be provided for maintenance and inspection.
  - b) The facilities must be designed and have emergency spillways to allow passage of a 100-year developed runoff without detriment to the structure and must limit backwater to avoid damage to the improvements on the site.
  - c) Low-flow openings of less than 12 inches in diameter or minor dimension shall be provided with a 2-inch bar screen with a net opening area of at least 144 square inches.
8. Maintenance during Construction.
  - a) Detention or retention facilities must be constructed before other major site disruption to allow the features to be used for the control of the transport sediment.

- b) Accumulated sediment must be removed whenever the presence of such sediment degrades the performance of the structure in the control of transport of sediment.
- c) If the Developer fails to provide adequate maintenance and the facilities become inoperative or ineffective or become a nuisance, the City of Sikeston may perform remedial work at the Developer's expense. (R.O. 2009 §13.08.410; Ord. 5816 §II, 2010)

### **13.08.420 (700.070) CONSTRUCTION SITE RUNOFF CONTROL**

The following provisions shall govern the control of all construction site runoff for all construction projects within the City.

#### **A. Site Disturbance Permits Required.**

All construction projects which would disturb one (1) acre or more must obtain a Land Disturbance permit from the Missouri Department of Natural Resources. In addition to the requirements of this chapter the condition of any land disturbance permit shall be applicable.

#### **B. Best Management Practices (BMP's).**

BMP's shall include both physical improvements and good construction practices. The minimum required BMP's shall include the following, but may include others as required by the Owner in the review of the construction.

1. **Physical Silt Control BMP's.** All construction projects shall provide a physical or vegetative buffer to retard the migration of silt from the site of the project. These measures must be installed prior to the start of excavating or grading activities and may be either silt fencing, straw bale barriers, sod strips, fully-established turf strips or other management practice that will effectively retard the migration of silt.
2. **Physical Tracking Control BMP's.** The access to construction sites must be either a permanently paved or a temporary gravel surface sufficient to allow for the movement to and from the site and parking of vehicles on site. The goal of this requirement is to eliminate the tracking of silt on vehicles from construction sites.
3. **Establishment of Turf.** The contractor shall provide seeding and mulching of a minimum width of 20 feet along the perimeter of the site immediately upon completion of grading activities. Follow-up seeding shall be done as required to produce an acceptable stand of grass. No disturbed areas along the site perimeter shall be left without seeding for more than 1 month.
4. **Construction Practice BMP's.** Provisions must be made on construction sites to prevent to migration of mud, silt and debris including the following minimum measures:
  - a) The contractor shall be responsible to inform employees on the goals to minimize pollution and to provide instructions on the measures required by this chapter.
  - b) Parking on non-surfaced areas shall be avoided. Contractors must use paved access and parking areas adjacent to or within the area.

- c) All vehicles leaving the site will be washed of all mud. The contractor shall maintain a wash down area and washed materials shall be removed on a regular basis.
  - d) The contractor shall sweep the public roadway as required to remove mud, dirt or rock tracked from the site.
  - e) No slopes or cut faces or embankments shall be left at day's end that are greater than 3 horizontal to 1 vertical except for excavations than have no discharge from the site.
5. Spill Prevention BMP's. The following provisions must be made regarding spill prevention and control:
- a) Any spill of petroleum, paint or other product which might cause groundwater pollution in excess of 5 gallons shall be immediately reported to the City.
  - b) Vehicles that have fluid leaks will not be used, any leaks will be fixed immediately or the equipment shall be hauled from the site.
  - c) Concrete trucks shall not be washed down in areas where the washed material will not be properly disposed with embankment.
  - d) The contractor shall not allow any liquid to be washed into any street, storm sewer, swale or ditch. All liquid products shall be stored in their original containers and sealed when not in use.
6. Solid Waste BMP's. The following provisions must be made regarding the handling of solid waste:
- a) All vegetative solid waste shall be disposed by the contractor in compliance with prevailing laws, ordinances and regulations. No burning of any form will be allowed.
  - b) Removed pavement may be used as embankment as long as it qualifies as clean fill in compliance with prevailing laws, ordinances and regulations.
  - c) Other solid waste not conforming to the above requirements shall be disposed by the contractor at a permitted solid waste disposal facility.
7. Maintenance and Inspection of BMP's. As a minimum the contractor shall perform the following maintenance and inspection activities:
- a) All control measures shall be inspected by the contractor at least once per week and following any storm event of 0.5 inches or more. A log shall be kept of inspection activities.
  - b) Repairs required for any structural BMP's shall be made by the contractor within 24 hours of being discovered,
  - c) Public roadways used for access for the project shall be inspected daily for dirt, debris, spills and any such materials shall be corrected immediately.
  - d) Public roadway pavements shall be inspected daily for pavement damage, any noted damage must be reported to the City immediately.
  - e) Accumulated sediment that impacts the performance of a BMP will be removed and shall not be allowed to exceed one third the height of the barrier. (R.O. 2009 §13.08.420; Ord. 5816 §II, 2010)

**13.08.430 (700.080) POST-CONSTRUCTION OPERATION & MAINTENANCE**

The following provisions shall govern the long-term operation and maintenance of privately-owned drainage facilities including detention and retention basins.

- A. If responsibility for post-construction operation and maintenance is to be transferred to the individual private owners in a subdivision, the Developer shall assure perpetual maintenance of the drainage facilities through the adoption of maintenance agreements and covenants to be noted on and recorded with the subdivision plat and referenced on the deeds for any such facilities.
- B. Operation and maintenance responsibilities for stormwater detention and retention structures including flow attenuation devices shall remain with the legal owner of the site of the subject improvements. Typical operation and maintenance activities include the following:
  - 1. Period inspections for defects affecting performance,
  - 2. Removal of accumulated silt and debris,
  - 3. Mowing and turf maintenance.
- C. If the owner of the site for stormwater detention and retention structures including flow attenuation devices fails to provide adequate operation and maintenance and the facilities become inoperative or ineffective or become a nuisance, the City of Sikeston may perform remedial work at the Developer's expense. (R.O. 2009 §13.08.430; Ord. 5816 §II, 2010)

**13.08.440 (700.090) PERMIT – APPLICATION CONTENTS**

Any person proposing to make any material change in the use or appearance of any structure or land shall apply for a permit on an application form available from the Planning/Code Enforcement Office of the City of Sikeston. Said application shall be filed by the owner/applicant and shall contain the following elements:

- A. A location map;
- B. A statement expressing the intent and scope of the proposed project; and
- C. A schedule of proposed improvements. (R.O. 2009 §13.08.440; Ord. 5816 §II, 2010; Ord. No. 4101 §7(part), 1980)

**13.08.450 (700.100) APPLICATION REVIEW, PERMIT ISSUANCE**

Within forty-five (45) working days after submission of the completed permit application package, the City Manager or his designee shall approve, approve subject to conditions/modifications, or reject the proposed plans, and shall notify the applicant accordingly.

- A. If additional engineering information is required, it shall be the responsibility of the applicant to furnish the following information to the City Manager or his designee:
  - 1. A detailed site plan, including general location map for the proposed project prepared by a professional engineer registered in the State of Missouri.
  - 2. Topographic maps of the site before and after the proposed alteration, including such adjoining land whose topography may affect the layout or drainage;
  - 3. General vegetation maps of the site before and after the proposed alteration;

and

4. The construction plans, specifications and computations necessary to indicate compliance with the requirements of this Article. (R.O. 2009 §13.08.450; Ord. 5816 §II, 2010)
- B. If the application is rejected or modified, the City Manager or his designee shall state the reasons for rejection or modification.
  - C. If the City Manager or his designee has not rendered a decision within forty-five (45) business days after the application's submission, the designee must inform the applicant of the status of the review process and the anticipated completion date.
  - D. If the applicant feels aggrieved due to rejection, modification or delay, the applicant must request a hearing before the City Council. (R.O. 2009 §13.08.450; Ord. 5816 §II, 2010; Ord. No. 4101 §7(part), 1980)

#### **13.08.460 (700.110) PERMIT FEE**

A permit fee shall be collected at the time the permit application is filed. Said fee will reflect the cost of the administration and management of the permitting process. (R.O. 2009 §13.08.460; Ord. 5816 §II, 2010)

#### **13.08.470 (700.120) PLAN ADHERENCE**

After approval of the permit application, the applicant shall be required to adhere strictly to the Stormwater Management Plan and construction site runoff control measures, as approved. Any changes or amendments to the plan must be approved by the City Manager or his designee in accordance with the procedures set forth in 13.08.440 (700.090) through 13.08.490 (700.140). The City Manager or his designee shall be granted inspection rights and right-of-entry privileges in order to insure compliance with the requirements of this Article. (R.O. 2009 §13.08.470; Ord. 5816 §II, 2010; Ord. No. 4101 §8, 1980)

#### **13.08.480 (700.130) ENFORCEMENT**

If the City Manager or his designee determines the project is not being carried out in accordance with the approved plan, said designee is authorized to:

- A. Issue written notice to the applicant specifying the nature and location of the alleged non-compliance, with the remedial steps necessary to bring the project into compliance.
- B. Issue a stop work order directing the applicant to cease and desist all or any portion of the work which violates the provisions of this Article, if the remedial work is not completed within a specified time frame. The applicant must then bring the project into compliance or be subject to immediate revocation of this permit and to the penalties in section 13.08.540 (700.190). (R.O. 2009 §13.08.480; Ord. 5816 §II, 2010; Ord. No. 4101 §10, 1980)

#### **13.08.490 (700.140) VARIANCE PROCEDURE**

Where it may be shown by investigation that an increase or decrease in the rate or

volume of surface runoff may be beneficial to the water resources of the City of Sikeston, Missouri, the City Manager, upon recommendation by his designee may grant a variance to this Article. The variance request must be initiated by the developer. (R.O. 2009 §13.08.490; Ord. 5816 §II, 2010; Ord. No. 4101 §12, 1980)

**13.08.500 (700.150) EMERGENCY EXEMPTION** No part of this Article shall be construed to prevent the doing of any act necessary to prevent material harm to or destruction of real or personal property as a result of a present emergency when the property is in imminent peril and the necessity of obtaining a permit is impractical and would cause undue hardship in the protection of the property. (R.O. 2009 §13.08.500; Ord. 5816 §II, 2010; Ord. No. 4101 §13, 1980)

**13.08.510 (700.160) Interpretation – Liberal Construance**

In the interpretation and application of this Article, the provisions expressed shall be held to be the minimum requirements and shall be liberally construed in favor of the City and shall not be deemed a limitation or repeal of any other powers granted by City Charter or State Statutes. (R.O. 2009 §13.08.510; Ord. 5816 §II, 2010; Ord. No. 4101 §14, 1980)

**13.08.520 (700.170) DISCLAIMER OF LIABILITY**

This Article shall not create liability on the part of the City or any official or employee thereof for any damages which may result from reliance on this Article or on any administrative decision lawfully made thereunder. (R.O. 2009 §13.08.520; Ord. 5816 §II, 2010; Ord. No. 4101 §15, 1980)

**13.08.530 (700.180) CONFLICTS WITH OTHER ORDINANCES**

In case of conflict between this Article or any part thereof and the whole or part of any other existing or future ordinance or code, the most restrictive in each case shall apply. (R.O. 2009 §13.08.530; Ord. 5816 §II, 2010; Ord. No. 4101 §16, 1980)

**13.08.540 (700.190) VIOLATION – PENALTY**

Any person, whether owner, lessee, principal, agent, employer or otherwise, who violates or causes to be violated any provision of this Article or permits any such violation or fails to comply with any of the requirements shall be punished by a fine not to exceed five hundred dollars (\$500.00), or by imprisonment for a period not to exceed sixty (60) days, or by both such fine and imprisonment. Each day upon which such violation shall continue shall constitute a separate offense hereunder. (R.O. 2009 §13.08.540; Ord. 5816 §II, 2010; Ord. No. 4101 §11, 1980)

**SECTION III: General Repealer Section:** Any ordinance or parts thereof inconsistent herewith are hereby repealed.

**SECTION IV: Severability:** Should any part or parts of this ordinance be found or held to be invalid by any court of competent jurisdiction, then the remaining part or parts shall be severable and shall continue in full force and effect.

**SECTION V: Record of Passage:**

- A. Bill Number 5816 was introduced and read the first time this 26th day of April 2010.
- B. Bill Number 5816 as amended, was introduced and read the second time this 7<sup>th</sup> day of June 2010.
- C. Bill Number 5816 was read the third time and discussed this 15th day of June 2010, and voted as follows:

Bohannon, \_\_\_\_\_, Rogers, \_\_\_\_\_, Hedrick, \_\_\_\_\_,  
 Conway, \_\_\_\_\_, Teachout, \_\_\_\_\_, Harris, \_\_\_\_\_,  
 Pullen, \_\_\_\_\_, thereby being  
 \_\_\_\_\_, and  
 becoming ordinance 5816.

- C. Ordinance 5816 shall be in full force and effect from and after July 15, 2010.

\_\_\_\_\_  
 Jerry Pullen, Mayor

\_\_\_\_\_  
 Approved as to form  
 Chuck Leible, City Counselor

Seal / Attest

\_\_\_\_\_  
 Carroll Couch, City Clerk