

MISC 2011

0948

CERTIFICATE OF RECORD  
 STATE OF ARKANSAS COUNTY OF WHITE  
 I CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD  
 AND IS RECORDED AS STAMPED HEREON.  
 DATE 1-13-11 TIME 4:10 P.M.  
 BOOK 2011 PAGE 948  
 TAMM KING, WHITE COUNTY CIRCUIT CLERK  
*Margie Alton*  
 S.C.

ORDINANCE 2011-01

AN ORDINANCE AMENDING PORTIONS OF THE SUBDIVISION REGULATIONS; DECLARING AN EMERGENCY; AND FOR OTHER PURPOSES

WHEREAS, land development in the City includes the design of drainage measures and facilities to prevent the flooding of adjacent and downstream properties; and

WHEREAS, the regulations found within the subdivision code of the City of Searcy do not, at present, provide for such design; and

WHEREAS, the Planning Commission has directed the preparation of revised regulations governing drainage in new developments within the planning area of the city; and

WHEREAS, the Planning Commission, after holding a duly authorized public hearing, has recommended specific revisions to the City Council.

NOW, THEREFORE BE IT ORDAINED, by the City Council of the City of Searcy, Arkansas:

Section 1. Chapter V of the Subdivision Regulations of the City of Searcy, Arkansas, is repealed and restated to read as follows:

**“CHAPTER V -- DRAINAGE**

**SECTION 1 – GENERAL REQUIREMENTS**

- A. Applicability. All construction and subdivision developments or redevelopments shall submit a stormwater management and drainage plan, with stormwater calculations, before any plans will be processed for review by the staff or by the planning commission. The city engineer must approve the stormwater management plan before any planning commission, building permit, or notice to proceed shall be issued.
- B. Exemptions. The following are exempted from mandatory review by the City Engineer but shall be reviewed by the Building Official who may forward any plans to the City Engineer in cases where conditions are indicated that could cause stormwater management problems...
  1. An individual single-family dwelling, new or existing.
  2. An individual duplex dwelling, new or existing.
  3. A new non-residential structure to be located on a lot of 15,000 square feet or less.

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City of Searcy

4. An existing non-residential structure on which additional improvements are less than 500 square feet and which has been identified by the City Engineer as located on a lot or parcel that is free from current drainage issues.
- C. Regulations. The following regulations shall govern the design, installation, and review of stormwater management plans and features.
1. Every residential, commercial and industrial subdivision shall make adequate plans and provisions to accommodate, control and dispose of stormwater by means of drains, sewers, catch basins, culverts, detention facilities and other facilities as deemed necessary by the city engineer, or as required by any other city ordinance. No work shall begin until plans are approved by the appropriate departments of the city. Plan approval shall be based on the requirements of the approved preliminary plat and other applicable city standards.
  2. Facilities for storm drainage and detention of stormwater shall be designed and constructed so as to not increase the rate of stormwater runoff onto adjoining property or downstream systems to that which existed prior to the development. This requirement is subject to the following considerations.
    - a. The requirement shall be satisfied when the City Engineer attests that the drainage plan submitted by the applicant's engineer meets or exceeds applicable standards and practices currently promulgated by the profession. Neither the City Engineer nor the applicant's engineer shall be held responsible for rainfall events or storm conditions that cannot be treated by those applicable standards and practices.
    - b. If existing conditions on the subject property are, in the opinion of the City Engineer, presently causing drainage problems downstream, the design of the drainage and detention of stormwater shall first treat those existing conditions as well as those associated with new construction.
  3. On-site detention facilities or other appropriate and approved means to control the increased runoff from development, based on a one in ten-year storm design frequency, shall be incorporated into the subdivision drainage plans. On-site detention facilities included as part of the drainage plan shall be maintained by the subdivider, owner of record or property owners association. The bill of assurance shall specifically state the party who shall be responsible for the maintenance of the detention facility. Maintenance shall include removal of sediment when the basin's function is impaired, mowing, removal of debris, and reseeding or re-sodding. If the subdivider, owner or property owners association neglect or refuse to maintain the detention facility after having been officially notified by the city in writing to do so, the city is authorized to perform the maintenance and to charge the cost to the subdivider, owner or property owners association. In instances where on-site detention is deemed inappropriate by the City Engineer,

based upon submission of proper proof by the engineer of record, due to local topographical or other physical conditions, land area limitations, and inaccessibility to an existing drainage system for outlet control, the city may allow the subdivider or owner of the property, as an option to on-site detention, to provide payment of a one-time stormwater payment-in-lieu of fee. Unless otherwise directed, the mayor shall determine the stormwater payment-in-lieu of fee based on a prorated formula of \$2,500.00 per acre for all multifamily, commercial, and industrial development and \$250.00 per lot for single-family detached residential. The requirement for detention or stormwater payment-in-lieu of fee shall apply to all development including previously approved preliminary plats, and development with staged (phased) construction, in which case it shall apply to the entire development. In instances where city staff determines that a proposed development will create a flooding problem downstream, the city will require detention or improvement of the downstream system as a condition for approval of the development. The city may participate in the acquisition of downstream easements. Stormwater payment-in-lieu of fees are to be deposited with the city prior to final plat approval unless otherwise directed by the mayor.

4. Funds generated from the payment of stormwater payment-in-lieu of fee shall be used for the specific purposes of better management of and improvements to the downstream drainage systems to which the payment applies.
5. Stormwater may not be diverted from one major watershed to another.
6. If any area or lot is within a designated floodplain or floodway, the final plat shall have a floodplain statement indicating the panel number, date and 100-year floodplain contour and/or floodway limit of the flood insurance rate map (FIRM) applicable to the area. In order to protect the public interest, floodways in every subdivision shall be kept free of incompatible urban development. Floodways, as defined by the current FIRM, or as modified by a detailed engineering analysis accepted by the Army Corps of Engineers, Federal Emergency Management Agency (FEMA), and city staff, shall be either designated on the plat as a drainage easement, or at the option of the landowner, dedicated to the public.
7. During construction of the subdivision and during the maintenance bond period, the subdivider shall provide all necessary maintenance and erosion control measures to keep ditches and drainage systems free of debris and sediment. The submitted subdivision construction documents should include the appropriate details and specifications pertaining to erosion control. Erosion control measures shall include temporary or permanent seeding, sodding, mulching, staked straw bales, silt fences, temporary diversion ditches, silt basins, terracing and ditch checks. Information on erosion and sediment control is available from the Arkansas Department of Environmental Quality.

**SECTION 2 – FACILITY DESIGN SPECIFICS**

- A. Facilities for storm drainage shall be of adequate capacity, and designed in accordance with not less than a one in ten-year storm design frequency for single-family detached residential subdivisions, and one in 25-year storm design frequency in multifamily, commercial and industrial subdivisions (except in the city center commercial area, where one in 50-year design will be used). Developments where the upstream drainage area contributing runoff is less than 200 acres may be designed using the rational method for calculating runoff. Developments where the upstream drainage area contributing runoff is between 200 and 2,000 acres shall be designed using the U.S. Soil Conservation Services TR-55 method of calculating runoff. For developments where the upstream drainage area is greater than 2,000 acres, the U.S. Army Corps of Engineers HEC-1 program shall be used. A professional engineer licensed in the state shall prepare all such calculations. Provisions shall be made for stormwater emergency overflow in subdivisions having enclosed systems. This system shall be an aboveground system consisting of swales or other drainage mechanisms with the capacity to carry excess water to an approved drainage facility, not carried by the underground system. This system shall have the capacity for a one in 100-year storm design frequency.
- B. In determining a drainage plan for a development, the project engineer shall assume a fully developed watershed in calculating the stormwater runoff. The engineer shall refer to city zoning maps to determine the classification of development planned for the undeveloped area in determining a "C" factor. The minimum runoff coefficient ("C" factor) for single-family detached residential areas is 0.50. (Refer to the following runoff coefficient tables for the "C" factor.)

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TABLE 1  
 RUNOFF COEFFICIENTS FOR RATIONAL METHOD

TABLE INSET:

		Runoff Coefficients Frequency		
<i>Land Use Types</i>		<i>10</i>	<i>25</i>	<i>100</i>
<i>Residential:</i>				
	Single-family (detached)	.50(.30-.60)	.65	.70
	Single-family (attached)	.60(.40-.70)	.65	.75
	Multifamily	.70(.60-.80)	.75	.80
	1/2 AC lots or larger	.40(.25-.50)	.45	.65
<i>Commercial:</i>				
	All commercial zones	.85(.70-.95)*	.90	.95
<i>Industrial:</i>				
	Light areas	.80(.50-.85)	.82	.85
	Heavy areas	.85(.60-.90)	.87	.90
	Parks and cemeteries	.30(.10-.40)	.40	.60
	Playgrounds	.35(.20-.40)	.50	.70
	Schools and churches	.60(.50-.75)	.65	.75
	Off-site flow analysis (when land use is not defined)	.55(.45-.65)	.67	.70

\*Note: The range of runoff coefficients is based on soil type: The low value is for sandy soils, while the high value is for clay soils. The given runoff coefficient outside the parentheses is to be used for design unless the engineer of record receives approval from the city engineer for another value located within the given coefficient range.

- C. All open drainage ditches shall conform to any requirements set forth in the Master Street Plan or to standard engineering practice. This applies to open ditches in industrial subdivisions when the ditch is within the street right-of-way. Open drainage ditches along lot lines of residential property shall not be permitted unless approved by the city engineer.
- D. The minimum allowable pipe size shall be 18 inches in diameter unless otherwise approved by the city engineer. Reinforced concrete pipe (RCP) shall be a minimum type III classification and shall be used for all drainage facilities at street crossings. High-density polyethylene (HDPE), and reinforced concrete pipe (RCP) may be used in underground drainage facilities which are not located at a street crossing. High-density polyethylene (HDPE) may be used in street crossings, provided there is sufficient street cover as approved by the City Engineer.
- E. No head water or head pressure will be allowed in determining flow capacity of pipe culverts and box culverts that may cause a flooding condition.
- F. All pipe culverts and box culverts shall have concrete headwalls at the inlet and outlet ends or flared end sections with concrete paved or riprap slope protection. Rip rap velocity Dissipaters for slope protection should be of sufficient size and quantity to prevent erosion.

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TABLE 2

## RUNOFF COEFFICIENTS FOR RATIONAL METHOD COMPOSITE ANALYSIS

TABLE INSET:

(This table may be used only with permission from the City Engineer.)

		Runoff Coefficients Frequency		
Character of Surface		10	25	100
<i>Undeveloped Areas:</i>				
Historic flow analysis, greenbelts, agricultural, natural vegetation clay soil:				
	Flat, 2%	.30	.33	.37
	Average, 2--7%	.40	.44	.50
	Steep, 7% or greater	.50	.55	.62
Sandy soil				
	Flat, 2%	.12	.13	.15
	Average, 2--7%	.20	.22	.25
	Steep, 7% or greater	.30	.33	.37
<i>Streets:</i>				
	Paved	.90	.92	.95
<i>Drives and Walks:</i>		.90	.91	.92
<i>Roofs:</i>		.90	.92	.95
<i>Lawns:</i>				
Clay soil:				
	Flat, 2%	.18	.20	.25
	Average, 2--7%	.22	.28	.35
	Steep, 7%	.35	.45	.60
Sandy soil				
	Flat, 2%	.10	.25	.40
	Average, 2--7%	.15	.30	.45
	Steep, 7%	.20	.35	.50

**SECTION 3. STREET RELATED**

- A. All street-related storm drains shall conform to specifications set forth in the Master Street Plan or Subdivision Code.
- B. All roadway pavements shall be designed to eliminate cross flow of drainage across the pavement cross-section or crossing the crown of the street, except as outlined in Section 3 (F) below.
- C. All street crowns on residential streets (as defined in the master street plan) shall be six inches, including a one-inch gutter slope to the curb.
- D. Pipe culverts crossing city-owned street rights-of-way shall extend to the right-of-way lines. If side ditches are present, the pipe culverts shall extend as far to the right-of-way line as possible without obstructing the side ditch flow. Box culverts and bridges which cross city-owned street rights-of-way need not extend to the right-of-way lines on each side but shall be of sufficient width to accommodate the required vehicle roadway section, shoulders and pedestrian walkways. Box culverts having a clear span of less than six feet shall not qualify as a box culvert in the above provision but shall extend across the street from right-of-way line to right-of-way line.
- E. All driveways within city-owned street rights-of-way shall be paved with reinforced concrete. Where a new driveway ties into an existing vertical street curb and the vertical portion of the curb is to be removed, it shall be saw-cut, not broken. When the curb is saw-cut, the driveway shall provide a smooth transition from the gutter line or an optional one-inch lip at the gutter line, and shall be sloped towards the street with a minimum six-inch fall to the bottom of the street gutter. No concrete, asphalt or other material shall be placed in the curb gutter to access a driveway.
- F. No valley gutters or swaled pavements shall be permitted at street intersections except on local streets as defined by the master street plan, and only then due to topographical conditions and when the drainage calculations are approved by the City Engineer. All approved valley gutters shall be reinforced concrete pavement not less than six inches thick.
- G. Curb inlets shall be designed to adequately accommodate the design storm volume of flow in the gutter and shall have a throat inlet capacity of 1.5 times the design gutter flow. Curb inlets shall be spaced so that at no point shall the gutter ponding between inlets be greater than half the width of the outer lane of the street. Maximum inlet spacing shall be 500 feet beginning at changes in the direction of the flow in the street gutter.
- H. Breaks in the curb with concrete aprons curb cuts may be allowed in lieu of inlets where approved by the City Engineer and where the discharge flows directly into an



existing drainage facility. Erosion control structures such as flumes, concrete splash pads, etc., must be provided to adequately control the resulting erosion.

#### **SECTION 4. EASEMENTS**

- A. Where a major watercourse, channel or stream traverses a subdivision, a storm drainage easement shall be provided for access of vehicles and equipment for its maintenance. Such easement shall conform substantially to the lines of the watercourse as it enters and leaves the property. The width and construction of the easement shall be based on requirements of the city engineer, but in no case shall the easement be less than ten feet on either side of the centerline of the watercourse.
- B. There shall be no structural encroachments into drainage easements. If drainage facilities or drainage easements are an enclosed (underground and covered) drainage system, then fences, parking lots, driveways, alleys and the like may encroach into or traverse the drainage easement.
- C. No utilities, except for utility crossings, shall be allowed to encroach into defined drainage easements.
- D. Wherever possible, drainage easements should be kept separate from utility facilities and easements.

#### **SECTION 5. LOT DRAINAGE**

- A. In single-family subdivisions, the project engineer or subdivider shall submit, along with the other necessary construction drawings and documents, a subdivision lot drainage plan. This plan shall generally indicate how the project engineer or subdivider proposes that each individual lot shall drain after it has had a residential structure built on the lot. This requirement should not be construed as providing a specific drainage plan for each lot. Instead, this plan shall be used by city staff as a tool to assist the individual homebuilders in the final grading of the lot to provide the necessary lot drainage.
- B. Single-family residential home builders shall, at the time of a building permit application, submit a plot plan indicating how the builder proposes to grade the lot and provide proper lot drainage. This individual lot drainage plan shall conform to the subdivision lot drainage plan as described in this subsection.
- C. In order to avoid the potential for damage due to local flooding, all lots shall have the lowest livable finished floor elevation of any building a minimum of six inches above the finished elevation grade, except basement floors. The finished elevation grade shall be measured from and include topsoil and sod and/or other ground covers. Where practical, the finished floor as defined herein should be a minimum of 12 inches above the adjacent street's top-of-curb elevation.

- D. All lots shall be provided with adequate drainage and shall be graded to drain surface water away from foundation walls. The grade away from foundation walls shall fall a minimum of six inches within the first ten feet except as restricted by lot lines, where the fall will be a minimum of six inches regardless of the horizontal distance available.
- E. Lot owners shall not extend the downspouts of roof gutters, French drains or other type of stormwater drains to the edge of the property lines unless the discharge empties directly into an approved drainage facility (open drainage ditch, storm sewer manhole, street gutter, or areas zoned open-space). Lot owners shall not connect their stormwater drains to any existing city-owned underground drainage pipe.
- F. In those instances where the roof gutters, French-drains or other types of stormwater drains cannot discharge into one of the facilities referenced in this subsection and is therefore directed to an abutting property, the minimum distance from the point of discharge to a side yard property line shall be one foot less than the minimum side yard setback requirement as specified in the zoning code. The minimum distance from the point of discharge to a rear yard property line shall be ten feet.”

Section 2. All portions of the Subdivision Regulations of the City of Searcy, and all amendments thereto not specifically amended or revised by this Ordinance are hereby reaffirmed, remain unaltered and remain in full force and effect.

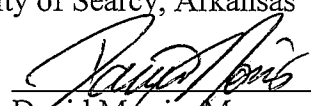
Section 3. The provisions of this Ordinance are separable and if any provision shall for any reason be held illegal or invalid, such holding shall not affect the validity of the remainder of the Ordinance which can be given effect without the invalid provisions or portions.

Section 4. Emergency Clause. Whereas the proper drainage in the city and the orderly growth of the City of Searcy is of great importance, and the economic and physical well-being of the City is being hampered by any delay in the effective date of this Ordinance, and this Ordinance being necessary for the immediate protection of the public health and safety, an emergency is hereby declared to exist and this ordinance shall be in full force and effect from and after its passage.

Adopted this 11th day of January, 2011.

The City of Searcy, Arkansas

By:

  
David Morris, Mayor

Attest:

*Margaret Meads*  
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Searcy City Clerk-Treasurer  
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