

**Commonwealth of Kentucky**  
**OLDHAM COUNTY**  
**ORDINANCE NO. 16-830-348**

**AN ORDINANCE ESTABLISHING REGULATIONS FOR THE CONTROL OF POST-CONSTRUCTION  
STORMWATER, POLLUTANTS AND SEDIMENT TO THE STREAMS AND WATERWAYS OF OLDHAM  
COUNTY; AND REPEALING ORDINANCE NO. 06-830-361**

**WHEREAS**, Oldham County has been identified to comply with the requirements of the Federal Environmental Protection Agency through the Federal Water Pollution Act (33 USC § 1251 et seq.) and other regulation; and,

**WHEREAS**, Oldham County Fiscal Court (OCFC) was issued a Stormwater Phase II General Permit (KPDES No. KYG200000) by the KY Division of Water on March 1, 2010. The permit states that OCFC must develop and implement an ordinance that addresses post-construction runoff from new development and redevelopment projects that disturb one acre or more, and for projects that disturb less than one (1) acre if they are part of a larger common plan of development that disturbs one acre or more.

**WHEREAS**, the purpose of this ordinance is to comply with the KPDES permit, protect water quality, and promote the public welfare by regulating the design and construction of stormwater facilities in new development and redevelopment projects.

**NOW, THEREFORE, BE IT ORDAINED** by the Fiscal Court of Oldham County, Commonwealth of Kentucky:

**Section 1. Jurisdiction**

The Post-Construction Ordinance shall govern all unincorporated properties with the jurisdiction boundaries of the County, and all incorporated areas within the boundaries of the County in which the incorporated area has passed a resolution and are co-permittees on the County's Kentucky Pollutant Discharge Elimination System (KPDES) Municipal Separate Storm Sewer System (MS4) permit supporting the enforcement of this ordinance.

Adherence to this ordinance in no way circumvents or eliminates the requirements of the state or federal regulations. Permits may be required by the Kentucky Division of Water and/or the United States Army Corp of Engineers.

**Section 2. Definitions**

For the purposes of this Ordinance, the following terms, phrases, words, and their derivatives shall have the meaning stated below:

Best Management Practice (BMP) are techniques or series of techniques which are proven to be effective in controlling runoff, erosion and sedimentation, and in mitigating flooding. This includes but is not limited to detention ponds, extended detention ponds swales, bioretention systems, vegetated filters, and hydrodynamic separators. This term can be interchangeable with the term “Stormwater Management Facilities”.

County – As referenced herein, County shall mean Oldham County Fiscal Court, a county employee, representative or designated person or agency. It may include the County Engineer, County Judge Executive, County Attorney, Road Supervisor, Code Enforcement Officer, Deputy Judge/Executive, Employee of the Planning and Development Office such as the Director, Planner or Building Inspector.

Design Storm is a rainfall event of specified size and return frequency (e.g., a storm that occurs only once every 2 years) that is used to calculate the runoff volume and peak discharge rate to a BMP.

Detention Basin is a temporary or permanent, natural or manmade structure that provides for the temporary storage of stormwater runoff, designed to prevent the permanent pooling of water.

Developer is any person, firm, corporation, sole proprietorship, partnership, state agency, or political subdivision thereof engaged in a land disturbance activity.

Ditch is an excavation, either dug man-made or natural, for the purpose of drainage or irrigation or having intermittent flow.

Drainage Area means an area enclosed by a topographic feature that contributes runoff to a single point that is measurable in a horizontal plane.

Green Infrastructure BMPs are types of structural BMPs that enhance the potential for infiltration and evapotranspiration. Green infrastructure BMPs are intended to treat, filter, flocculate, infiltrate, screen, evapo-transpire, harvest and reuse stormwater runoff, or otherwise manage the stormwater runoff quality. Green infrastructure BMPs can be implemented to meet the water quality treatment standard, and typically include, but are not limited to, the following:

- Grass swales
- Filter strips
- Infiltration basins
- Dry, wet, and extended-wet detention ponds
- Stormwater wetlands
- Bioretention areas
- Natural infiltration areas
- Sand filters
- Pervious pavements
- Rain gardens

Impervious Cover means any surface that cannot effectively absorb or allow water to infiltrate. This may include roads, streets, parking lots, rooftops and sidewalks.

Infiltration means the passage or movement of water into the soil surface.

Intensity-Duration-Frequency Curve (IDF Curve) is a graphical representation of the probability that a given average rainfall intensity will occur.

Land Disturbance Activity is any construction-related land change that may result in soil erosion from wind, water and/or ice, and the movement of sediments into or upon waters, lands, or rights of way within Oldham County, including, but not limited to, construction, demolition, clearing and grubbing, grading, excavating, transporting, and filling of land.

Major Subdivision Development Plan means a contiguous area where multiple separate and distinct construction activities are planned to occur at different times on different schedules under one plan. This includes commercial as well as residential development.

Municipal Separate Storm Sewer System (MS4) means a conveyance, or system of conveyances including roads with drainage systems, municipal and county maintained roadways, catch basins, curbs, gutters, ditches, man-made channels, and storm drains designed or used for collecting and/or conveying stormwater. Sanitary and combined sewers are not included in the definition of a Municipal Separate Storm Sewer System.

One Hundred-Year (100) Storm means a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of once in one hundred (100) years. It may also be expressed as a storm having the probability of a one percent (1%) chance of being equaled or exceeded in any given year.

Owner is an individual or entity in possession of title for land, building, or other item.

Post-Development means the conditions which exist following the completion of the Land Disturbance Activity in terms of topography, vegetation, land use, and runoff rate, volume or direction.

Pre-Development means the conditions which existed prior to the initiation of the Land Disturbance Activity in terms of topography, vegetation, land use, and runoff rate, volume or direction.

Redevelopment means any construction, alteration, or improvement involving Land Disturbance Activity performed on sites where existing land use is commercial, industrial, institutional, or multifamily residential.

Retention Basin is a temporary or permanent, natural or manmade structure that provides for the storage of stormwater runoff by means of a permanent pool of water.

Runoff is any water flowing over ground surface, including, but not limited to, rainfall,

snowmelt or irrigation water.

Runoff Calculation Methods are mathematical models and equations that are used to predict runoff volumes and rates.

Sediment is soils or other superficial materials transported or deposited by surface water as a product of erosion.

Stormwater Conveyance System means all storm sewers, channels, streams, ponds, lakes, or other conveyances used for conveying concentrated stormwater runoff or for storing stormwater runoff.

Stormwater Management is the overall culmination of techniques used to reduce surface *run-off* from causing flooding and dispersing pollutants. *Stormwater management* limits these negative impacts on the environment and property and should meet the hydraulic needs of a development while minimizing the associated negative environmental impacts.

Stormwater Management Facilities control the discharge of stormwater and may remove pollutants. Stormwater facilities included storage facilities (ponds, vaults, underground tanks, infiltration systems, etc.); water quality facilities (wet ponds, biofiltration swales, constructed wetlands, sand filters, oil/water separators, etc.); and conveyance systems (ditches, pipes, catch basins, etc.). These facilities can also be referred to by the term Best Management Practices (BMP).

Stream -Any river, creek, or channel in which water flows for substantial periods of the year.

Surety is a guarantee given by the owner to insure that they will meet the required obligations. Acceptable sureties are an irrevocable letter of credit in favor of the appropriate legislative body from a bank with offices in the Commonwealth of Kentucky, a performance bond in favor of the appropriate legislative body from a reputable bonding company acceptable to the administering authority, or a cash security in favor of the appropriate legislative body may be presented to the administering authority as an acceptable surety. Any irrevocable letter of credit or performance bond must include an automatic renewal "evergreen" clause with at least 30 day notice to the County of the cancellation of the surety. For the purposes of these regulations, the term "bonding" shall be construed to also include the posting of a letter of credit or cash as surety.

Ten-Year (10) Storm means a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of once in ten (10) years. It may also be expressed as a storm having the probability of a ten percent (10%) chance of being equaled or exceeded in any given year.

Two-year (2) Storm means a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of once in two (2) years. It may also be expressed as a storm having the probability of a fifty percent (50%) chance of being equaled or exceeded in any given year.

Water Quality Treatment Standard is the requirement intended to provide water quality treatment to the stormwater runoff volume from the 80th percentile precipitation event, equivalent to a rainfall event of 0.6 inches. The water quality treatment standard requires the stormwater runoff volume from this rainfall event to completely pass through a stormwater management measure or green infrastructure BMP prior to discharging from a development or re-development site.

### **Section 3. Scope of Coverage**

- A) Applicability – This Ordinance shall apply to any new or redevelopment of land disturbance activities over one (1) acre or more and for projects that disturb less than one (1) acre if they are part of a larger common plan of development that disturbs one acre or more. This ordinance shall apply to private and public development, including roads. This ordinance shall not apply to any developments, sections of developments or redevelopments approved prior to the date of the passage of this ordinance.
- B) Any development activity that involves land disturbance of one acre or more shall submit to the County Engineer, prior to development, a Stormwater Management Plan showing location of post-construction Best Management Practices (BMPs) prior to any construction activity. This would include but may not be limited to proposed Major Subdivision and commercial development.
- C) A Stormwater Management Plan is not required for the following activities:
  - 1. Any emergency activity that is immediately necessary for the protection of life, property, or natural resources.
  - 2. Agricultural or Silvicultural operations according to an Agricultural Water Quality Plan approved by Oldham County Soil Conservation District or approved as required in the Kentucky Agricultural Water Quality Plan developed in accordance with the Kentucky Agricultural Water Quality Authority.
- D) Each Stormwater Management Plan shall bear the name, telephone information, electronic contact information, and address of the owner/developer of the site and design engineer. It must also adhere to Section 10 of Oldham County Construction Site Runoff Ordinance. The plan must be sealed and signed by a licensed professional engineer in the State of Kentucky and submitted to Oldham County Engineer.
- E) Any proposed development activity covered by this ordinance shall also obtain a Soil and Erosion Control Permit that includes a fee as established by a Fee Schedule adopted by the County. There are no additional fees stipulated for this ordinance.

## **Section 4. Review of Stormwater Management Plan**

The County Engineer shall review each Stormwater Management Plan and determine its conformance with the provisions of this ordinance. Acceptance indicates that minimum requirements or intent are met and does not imply a guarantee of performance. Based on this review, the County will either accept the plan, accept with revisions or reject the plan indicating the reason and procedure for submitting a revised Plan

The County's review of the Stormwater Management Plan is for general compliance with this ordinance. The design engineer is ultimately responsible for the details of design, and the developer, property owner or his assignees is responsible for implementation.

## **Section 5. Design Criteria and Methods**

### Section 5.1 Design Storms

The selection of a Design Storm is the basis for all runoff calculations and facility design for a project site. The Stormwater Conveyance System shall be designed to adequately handle the runoff from storms having various frequencies of occurrence from different types of development in accordance with the general categories set forth below in this Section. To ensure the adequacy of the Stormwater Conveyance System, the following minimum Design Storms shall be used, where applicable:

- The 10-year Storm shall be used for all public storm sewer inlets and closed pipe systems. The 10-year Storm shall also be used for all channels and ditches, which should be capable of conveying the 10-year Storm flow within their banks.
- The 100-year Storm shall be used as a check storm for storm sewer systems designed for a 10-year Storm to confirm containment at levels below the rim opening to prevent surcharging.
- The 2-year Storm, 10-year Storm, and 100-year Storm shall be used to calculate Pre-Development runoff from a site for detention, retention, and sediment control basins.
- The 2-year Storm, 10-year Storm, and 100-year Storm shall be used to calculate Post-Development runoff from a site for detention, retention and sediment control basins.
- The 100-year Storm shall be used for all detention, retention, or sediment control basins as a check storm to ensure against flooding or surcharging.
- The post-development peak flow rates shall be less than or equal to the pre-development peak flow rates for the 2-year Storm, 10-year Storm, and 100-year Storm events.

### Section 5.2 Runoff Calculation Methods

The Rational Method, the Modified Rational Method and the Soil Conservation Service (SCS) Method are all acceptable. The calculations can be made either by hand or with computer software. The design engineer should choose the method that best fits the known values available and the size of the development.

The rainfall intensity should be obtained from Rainfall Intensity-Duration-Frequency (IDF) Curves for the appropriate design storm. Since IDF Curves have not been specifically developed for Oldham County, then the IDF Curves developed for Metro Louisville shall be used and may be found in the Louisville Metropolitan Sewer District Design Manual or obtained from the Oldham County Engineer's office.

### Section 5.3 - Water Quality Treatment Standard

The on-site water quality treatment standard is intended to improve the water quality of stormwater runoff before being discharged into the MS4. The standard is established so that stormwater management measures shall be sized to capture the stormwater runoff volume from the 80th percentile precipitation event, equivalent to a rainfall event of 0.6 inches, at a minimum. This volume is sometimes referred to as "the first flush".

The on-site water quality treatment standard is a volume-based standard and is appropriate for sizing green infrastructure BMPs that provide their primary treatment function by storing and treating the water quality volume (WQv). Stormwater management measures, also known as structural Best Management Practices (BMPs) or green infrastructure BMPs, are designed to treat a volume of runoff, which is detained for a certain period of time to allow for settling of solids and associated pollutants, as well as any biochemical treatment processes that may be provided for dissolved pollutants such as adsorption, precipitation, biodegradation, and plant uptake.

The WQv used for sizing green infrastructure BMPs shall be computed as follows:

$$R_v = 0.009 (I) + 0.05$$

where:

$R_v$  = volumetric runoff coefficient; and

$I$  = the percent imperviousness of the drainage area.

$$WQ_v = 3,630 \times R_v \times P \times A$$

where:

$WQ_v$  = water quality volume (ft<sup>3</sup>)

$R_v$  = volumetric runoff coefficient;

P = rainfall depth associated with the 80th percentile precipitation event (in), equivalent to a rainfall event of 0.6 inches; and

A = drainage area to BMP (acres).

Green infrastructure BMPs should be selected, sized, and designed to completely capture the WQv prior to discharging from the site. The green infrastructure BMPs shall be designed such that the drain time is long enough to treat the stormwater and release it at a rate that minimizes degradation of the water resources, but short enough to provide storage available for successive rainfall events and avoid the creation of nuisance conditions. The drain time for all green infrastructure BMPs shall be 48 hours at a maximum, such that there is no standing or residual water in the BMP following the WQv rainfall event.

## **SECTION 6. Design of Stormwater Management Measures or Green Infrastructure BMPs**

Stormwater management measures, also known as structural BMPs or green infrastructure BMPs, shall be used to treat, filter, infiltrate, screen, evapo-transpire, harvest or reuse stormwater runoff, or otherwise manage the stormwater runoff quality. Common examples are basins that over detain, infiltration basin or channels, rain gardens, bio-swales, dry wells, sand filters, underground storage and water quality units.

As set forth in Section 5.3 above, calculations shall be required to indicate that green infrastructure BMPs have been sized to completely capture the WQv, equivalent to the runoff volume generated from a rainfall event of 0.6 inches.

For additional information on the various types of green infrastructure BMPs available to meet the water quality treatment standard requirement, reference can be made to the Green Infrastructure Design Manual developed by the Louisville Metropolitan Sewer District. Post construction green infrastructure manuals have also been produced by many other communities including Northern Kentucky SD1, the City of Radcliff, Shelby County and Bowling Green, Kentucky.

## **Section 7. Submission of Bond**

Construction of a Stormwater Management Plan cannot begin until the Owner has posted a Stormwater and Erosion Control surety in accordance with Section 15 of Oldham County Construction Site Runoff Ordinance. Reduction and Release of this bond shall follow the steps also given in Section 15 of Oldham County Construction Site Runoff Ordinance. The Stormwater and Erosion Control bond will be released once all stormwater facilities and all requirements set forth in the Oldham County Construction Site Runoff Ordinance are complete and operational.



There are no additional sureties required in this ordinance. Furthermore, no sureties are required under the Stormwater Management Facilities Agreement for long term management associated with this ordinance.

## **Section 8. Enforcement During Construction**

Whenever the County finds that a person has violated a prohibition or has failed to meet a requirement of this Ordinance, the County may order compliance by sending a written notice of violation to the developer, property owner or their assignees. All violations shall be corrected within the time period specified in the notice. The notice of violation shall be either mailed to the property owner, or by personally serving the property owner with a written notice of violation. If the violation is not corrected as specified or if the County believes that the violations is grievous enough, the County may, without limitation:

- 1) Order the stoppage of work that is determined to have created, or to have contributed to, any dangerous conditions. Only corrective work can be performed under a stop work order.
- 2) Issue a citation with an order to appear before Oldham County Code Enforcement Board.
- 3) Call the Surety that was posted for the site and initiate corrective action by work forces under control of the County, with the cost of such work being recoverable from the Surety.

Penalties - The County may commence appropriate legal action and/or seek equitable relief, including injunctive relief, seizure of bonds or placing of liens, against any person who fails to abate a violation and/or to restore an affected property prior to the deadline established in the notice of violation. Any person who violates, neglects, omits, or refuses to comply with any provision of this Ordinance shall, upon conviction, be fined not less than \$75.00 per day nor more than \$150.00 per day for each offense. The time of violation shall be measured from the time written notice to correct is given to the owner. Each day a violation is maintained shall constitute a separate offense. Any recoverable cost of corrective action shall be in addition to fines imposed as a penalty. The imposition of any penalty shall not exempt the violator from compliance with the provisions of this Ordinance.

Stop Work Order/Revocation of Building Permit - In the event that any person holding a building permit violates the terms of this ordinance, or implements site development in such a manner as to materially adversely affect the health, welfare, or safety of the public near the development site or vicinity so as to be materially detrimental to the public welfare or injurious to property or improvements in the vicinity, the County may issue a stop work order in place of a notice of violation or may suspend or revoke any required building permit issued by Oldham County.

## **SECTION 9. Ownership and Maintenance Responsibilities of Stormwater Facilities**

### Section 9.1 Operation and Stormwater Maintenance Agreements

The owner shall perform or cause to be performed preventative maintenance of all stormwater management facilities during and after construction to ensure proper functioning.

All stormwater facilities shall be covered by a Stormwater Management Facilities Maintenance Agreement to ensure the system functions as designed. This Agreement shall include any and all drainage easements required to access and inspect the stormwater facilities. In addition, a legally binding and enforceable covenant specifying the party(ies) responsible for the proper maintenance of all stormwater facilities subject to the Agreement shall be secured prior to the release of the Soil and Erosion Control Bond. This agreement shall be binding on all subsequent owners of land served by the stormwater facilities. It must be recorded with Oldham County Clerk. Requirements of this agreement will be made part of the binding elements of any new major residential subdivision and also recorded on the record plat of the subdivision. The Maintenance agreement shall run with the property and be binding upon the Developer and its successors and assigns, including any homeowner associations. This agreement may not be amended or abrogated in part or whole, without the express written consent of Oldham County.

### Section 9.2 Stormwater Maintenance Easements

Maintenance easements rights are included within a Drainage Easement. Oldham County must be granted the authority to conduct inspections of approved stormwater facilities on a routine basis, random basis, or based upon a complaint or notice of violation. All easements granted for long term maintenance shall be approved by Oldham County and recorded in the office of Oldham County Clerk.

All effort must be made to keep all Stormwater Management Facilities that benefit multiple property owners on property owned by a corporation or group such as a homeowners association and not a private individual.

### Section 9.3 Maintenance and Repair Plan

Plan submittals for all stormwater management facilities shall include a written procedure for the minimum stormwater management facility maintenance requirements to ensure their continual proper functioning. These plans and procedures shall identify all parts and components of the facilities that require maintenance. This document will become part of the Stormwater Management Facilities Agreement.

**Section 10. Enforcement Post Construction**

Whenever the County finds, by inspection, that a person has violated a prohibition or has failed to meet a requirement of this Ordinance or the maintenance agreement, the County may order compliance by sending a written notice of violation to the developer, property owner or their assignees, including any homeowners association. All violations shall be corrected within the time period specified in the notice. The notice of violation shall be either mailed to the responsible party, or by personally serving the responsible party with a written notice of violation. If the violation is not corrected as specified or if Oldham County believes that the violations is grievous enough, the County may, without limitation perform the corrective action. The cost and expenses of such corrective action shall be in invoiced to the party found in violation. If not paid within thirty (30) calendar days, the have it collected with any other taxes levied thereon for the year in which the work was completed. The County may also place liens on the Property. Appeal may be made to the Oldham County Code Enforcement Board.

**Section 11. Separability**

The provisions and sections of this ordinance shall be deemed to be separable, and the invalidity of any portion of this ordinance shall not affect the validity of the remainder.

**Section 12. Effective Date**

The effective date of this Ordinance shall be August 16, 2016.

**Section 13. Conflicts**

All ordinance or parts of ordinances in conflict herewith are hereby repealed to the extent of said conflict.

  
DAVID VOEGELE 8.16.2016  
OLDHAM COUNTY JUDGE/EXECUTIVE