

**LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
DIVISION OF ENGINEERING**

**EXECUTIVE SUMMARY**

**STORMWATER MANAGEMENT PLAN  
FOR**

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*Name and Address of New Development Project*

# EXECUTIVE SUMMARY STORMWATER MANAGEMENT PLAN FOR

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*Name of New Development Project*

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### **Certification:**

I certify that this executive summary was prepared by me or others under my supervision, and that a copy is being provided to the New Development Section in the Division of Engineering and the MS4 Water Quality Manager in the Division of Water Quality.

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Date

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Engineer's Signature and Kentucky License No.

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Printed Name

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Name of Engineering Firm



## DETENTION REQUIREMENTS

Complete the applicable box below

### Box 1

- Detention basins are proposed to reduce the peak flows to baseline (pre-development) levels for the design storms in Chapter 5 of the Stormwater Manual (1.5.3). In areas where downstream flooding is known to be a problem, LFUCG may require that peak flows be less than pre-development (1.4.11).**  
Complete the Detention Basin Data Form for each basin.  
Complete the Summary of Peak Flows for each outfall (pipe or open channel at the property line).

Article 16-2(g) of the Zoning Ordinance (check one box below):

- Stormwater management facilities are provided for off-street parking areas containing five (5) or more parking spaces and/or more than 1,800 square feet.
- Off-street parking area is 1,800 square feet or less, or less than 5 parking spaces.

### Box 2

- On-site detention is not required (at least one box below must be checked, Section 1.5.2 of the Manual)**

- The Engineer has conducted a Downstream Study and all of the following apply within the study area:
- the increase in downstream water levels within the DSA for the 100yr-1hr, 100yr-6hr, and 25yr-24hr storms is less than 0.1'. (Note: The 25yr-24hr storm is the SCS Type II distribution and is used by LFUCG for the design of stormwater capital projects).
  - the drainage system has sufficient capacity to carry the flow for the 100yr-6hr and 25yr-24hr storms to the receiving stream. Sufficient capacity for a pipe system is defined as no overflows at inlets or manholes within the DSA. Sufficient capacity for an open channel is defined as a drainage easement wide enough to carry the flow within the DSA.

Note: The Downstream Study Area (DSA) means the area beginning at the property line and extending downstream to a point equal to 10 times the area of the proposed limits of disturbance.

- The drainage area is less than 5 acres, the land use is single family residential, and the drainage system has sufficient capacity to carry the peak flow for the 100yr-6hr and 25yr-24hr storms to the receiving stream.
- The drainage area is less than one acre, the land use is commercial or industrial, and the drainage system has sufficient capacity to carry the flow for the 100yr-6hr and 25yr-24hr storms to the receiving stream.
- The area within the LOD is less than 10% impervious.
- Detention is provided in existing facilities as part of a regional stormwater quantity master plan:
- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Expansion Area 2 | <input type="checkbox"/> Beaumont Centre | <input type="checkbox"/> Coldstream        |
| <input type="checkbox"/> Hamburg          | <input type="checkbox"/> Reynolds Road   | <input type="checkbox"/> Masterson Station |
| <input type="checkbox"/> Other _____      |  |  |
- Detention is provided offsite in existing facilities (explain in the Appendix).
- Supporting documentation attached, including map of offsite detention basin.

## DETENTION BASIN DATA FORM

Detention Basin No. \_\_\_\_\_ (Complete for each Basin)

**Type of Detention Facility:**

- Detention Basin  
  Underground Detention  
  Retention Pond  
  Extended Detention  
 LID Control w/detention volume:  
  Infiltration Trench  
  Bio-retention  
  Bio-infiltration Swale  
   
  Permeable Pavement  
  Tree Trench/Planter Box

Proposed Total Detention Volume: \_\_\_\_\_ cubic feet (top of embankment to bottom of basin)

Peak Flow Attenuation Design			
Design Storm	Peak Flows		
	Pre-Development	Basin Inflow	Basin Outflow
10yr-6hr			
100yr-6hr			
1992 actual storm			
1995 actual storm			

100yr-24hr storm:

Peak Stage \_\_\_\_\_ (assuming no flow through the principal spillway)

Emergency Spillway Elevation \_\_\_\_\_

Elevation of Normal Pool of Wet (Retention) Ponds \_\_\_\_\_

- Wet Ponds are designed with anti-seep collars

## SUMMARY OF PEAK FLOWS

Outfall No.		Peak Flow (cfs)			
		10yr-6hr	100yr-6hr	1992	1995
1	Pre-Development				
	Post Development				
2	Pre-Development				
	Post Development				
3	Pre-Development				
	Post Development				
4	Pre-Development				
	Post Development				
5	Pre-Development				
	Post Development				
6	Pre-Development				
	Post Development				
7	Pre-Development				
	Post Development				
8	Pre-Development				
	Post Development				
9	Pre-Development				
	Post Development				
10	Pre-Development				
	Post Development				

## WATER QUALITY REQUIREMENTS

Complete the applicable box below

### Box 1

- Water Quality BMPs or Manufactured Water Quality Devices are proposed to manage the Water Quality Volume (Section 1.6.3 of the Stormwater Manual).**

Complete the Water Quality Data Form for each outfall (pipe or open channel at the property line).

1. Compute the Required WQV
2. Calculate the infiltration credits
3. Provide for treatment of the Remaining WQV through Water Quality BMPs or through Manufactured Water Quality Devices

Note: In Commercial and Industrial Areas, 50% of the site must be treated with Infiltration or Bioretention Practices in Table 1-1 (Section 1.6.3), or with water quality treatment practices in the LFUCG LID Guidelines.

### Box 2

- On-site water quality BMPS are not required (at least one box below must be checked, Section 1.6.2 of the Stormwater Manual)**

- Less than one acre of land will be disturbed.
- Existing water quality BMPS are in place as part of a regional stormwater quality master plan.
- Expansion Area 2 (Facility No. \_\_\_\_\_)     Coldstream
- Other \_\_\_\_\_

**WATER QUALITY DATA FORM**  
**Outfall No. \_\_\_\_\_ (Complete for each Outfall)**

Impervious Area within LOD = \_\_\_\_\_ square feet

Required WQV = Impervious Area in square feet x 1.6 inches/12 x = \_\_\_\_\_ cubic feet (cf)

Infiltration Credit	
Description	WQV Credit (cf)
Downspouts to Grass	
Floodplain	
Riparian Plantings	
Other:	
<b>Total</b>	

Water Quality BMP	WQV Provided (cf)	# of BMPs of this type
Low Impact Development (see LID Guidelines, September 2012)		
Rainwater Harvesting		
Infiltration Trench		
Bio-infiltration Swale		
Tree Trench/Planter Box		
Bio-retention		
Permeable Pavement		
Extended Detention		
Sand Filters		
Wet Pond		
Constructed Wetlands		
Other:		
<b>Total</b>		

Manufactured Water Quality Devices*		
Description	Impervious Drainage Area (sf)	WQV Provided (cf) (Imp. Area x 1.6"/12)
<b>Total</b>		

\*Designed using the Rational Method with an intensity of 2.1 inches per hour (See Section 10.6.1)

Summary Table	
Infiltration Credits (cf)	
WQV Provided in Water Quality BMPs (cf)	
WQV Provided by Water Quality Devices (cf)	
<b>Total (cf)</b>	

**For Commercial Areas:**

Total Impervious Area on the Site: \_\_\_\_\_ square feet

Impervious Area Treated: \_\_\_\_\_ square feet = \_\_\_\_\_ % of the total impervious area

## SUBMITTAL CHECKLIST

### Engineer's Drainage Report/Plans (Stormwater Manual Chapter 4 design documentation)

- Watershed map with subwatersheds delineated and labeled (4.3.1)
- Location map of the stormwater controls and outfalls (4.3.1)
- Pre-development and post-development drainage map (4.3.1)
- Streams, wetlands, and other environmentally sensitive areas are shown on the plan (4.3.1)
- Detention basin design calculations and schematics (4.3.2)
- Detention/retention basins are on a single lot (1.4.6)
- Pre-Development and Post-Development runoff hydrographs with supporting data and analysis (4.3.2)
- Hydraulic analysis of the proposed storm sewers, inlets, culverts, and channels (4.3.2, 1.5.5)
- Water quality volume and BMP design calculations and schematics (4.3.2)
- Detailed design of control structures and embankments (4.3.2)
- Erosion prevention measures are provided at pipe outfalls (Section 1.6.5)
- Channel protection measures are provided to prevent bank erosion (1.6.6)
- Manufacturer's design and maintenance standards for water quality devices (4.3.2)
- If detention is not proposed, a hydraulic analysis is provided of the downstream drainage system that demonstrates sufficient capacity (1.5.4)

### Projects In or Along a Stream/Floodplain

- LFUCG's FEMA Floodplain Administrator has reviewed the plans
- FEMA Effective Special Flood Hazard Area is shown on the plan (1.4.12)
- For areas w/o SFHA, an H&H study has established the BFEs for projects > 5 acres or > 50 lots
- Flood Protection Elevations are shown for structures (4.3.3)
- Structures are at least 25 feet from the floodplain (1.5.7)
- Plans conform to Table 1-3 regarding allowable uses in the floodplain (1.9)
- Mitigation plans proposed for construction in the waters of Fayette County (1.4.5)
- Vegetative buffers are shown on the plan (1.9)
- Greenways are shown on the plan (4.3.1)

### Federal, State, and Local Permits related to proposed construction in a stream or floodplain

- LFUCG Division of Engineering Stormwater Permitting Checklist
- USACE 404 Permit
- KYDOW 401 Water Quality Certification
- KY Stream Construction Permit
- FEMA LOMR or CLOMR
- Special Permit from LFUCG for construction in the floodplain

### General

- Adequate vehicle access provided to maintain BMPs (driving surface within 10 feet of the BMP)
- Maintenance agreement for commercial projects

### Appendix

- Related drainage studies that affect the stormwater management plan of this project
- Narrative of known downstream flooding problems from LFUCG studies or Engineer's downstream study
- Copies of Waivers or Variances from LFUCG

**Note:** If a box is not checked, provide explanation in the Appendix

## List of Supplemental Information Provided in the Appendix