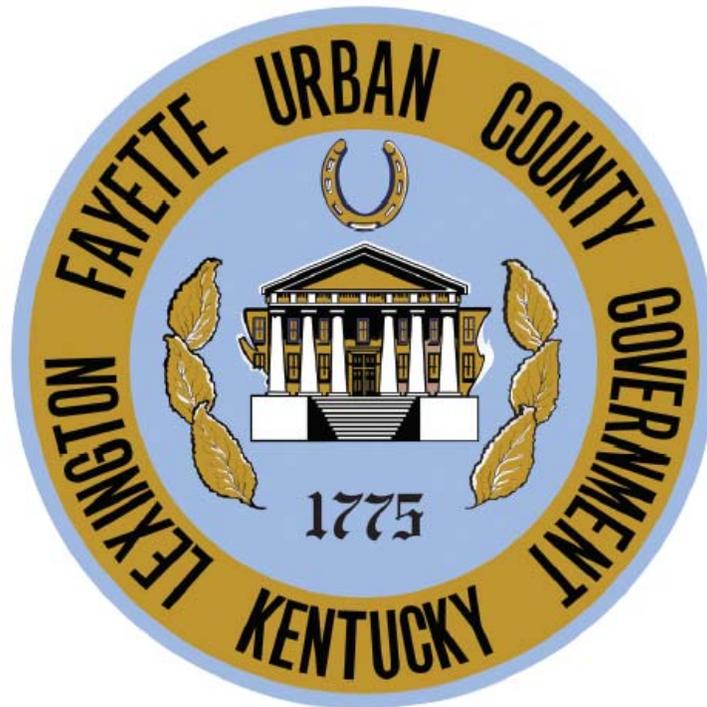


# Stormwater Quality Management Program

Lexington-Fayette  
Urban County Government



June 1, 2016

Division of Water Quality  
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**Lexington-Fayette Urban County Government  
Stormwater Quality Management Program  
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## ACRONYMS

1. “BMPs” is an acronym for Best Management Practices.
2. “CFR” is an acronym for Code of Federal Regulations.
3. “CR” is an acronym for Cane Run.
4. “CS” is an acronym for **Construction Site Stormwater Runoff Control** program element.
5. “CWA” is an acronym for Clean Water Act.
6. “DCS” is an acronym for Division of Computer Services, Lexington-Fayette Urban County Government.
7. “DES” is an acronym for Division of Environmental Services, Department of Environmental Quality and Public Works, Lexington-Fayette Urban County Government.
8. “DEQ&PW” is an acronym for the Department of Environmental Quality and Public Works, Lexington-Fayette Urban County Government.
9. “DGC” is an acronym for Division of Government Communications, Lexington-Fayette Urban County Government.
10. “DOE” is an acronym for Division of Engineering; Department of Planning, Preservation, and Development; Lexington-Fayette Urban County Government.
11. “DWQ” is an acronym for Division of Water Quality, Department of Environmental Quality and Public Works, Lexington-Fayette Urban County Government.
12. “EH” is an acronym for East Hickman.
13. “EPA” is an acronym for Environmental Protection Agency.
14. “GIS” is an acronym for Geographic Information System.
15. “IDDE” is an acronym for **Illicit Discharge Detection and Elimination** program element.
16. “IN” is an acronym for **Industrial Facility Stormwater Pollution Prevention** program element.
17. “KAR” is an acronym for Kentucky Administrative Regulations.
18. “KDOW” is an acronym for Kentucky Division of Water.
19. “KPDES” is an acronym for Kentucky Pollutant Discharge Elimination System.
20. “KRS” is an acronym for Kentucky Revised Statutes.

21. “LFUCG” is an acronym for the Lexington-Fayette Urban County Government.
22. “MEP” is an acronym for Maximum Extent Practicable.
23. “MG” is an acronym for Measurable Goal.
24. “MON” is an acronym for **Water Quality Monitoring** program element.
25. “MS4” is an acronym for Municipal Separate Storm Sewer System.
26. “NE” is an acronym for North Elkhorn.
27. “NPDES” is an acronym for National Pollutant Discharge Elimination System.
28. “PC” is an acronym for **Post-Construction Stormwater Management in New Development and Redevelopment** program element.
29. “PE” is an acronym for **Public Education and Outreach** program element.
30. “PI” is an acronym for **Public Involvement and Participation** program element.
31. “PPMO” is an acronym for **Pollution Prevention for Municipal Operations** program element.
32. “QA/QC” is an acronym for Quality Assurance and Quality Control.
33. “RR” is an acronym for **Reporting and Recordkeeping** program element.
34. “SE” is an acronym for South Elkhorn.
35. “SWQMP” is an acronym for Stormwater Quality Management Program.
36. “SWPPP” is an acronym for Stormwater Pollution Prevention Plan.
37. “TB” is an acronym for Town Branch.
38. “TMDL” is an acronym for Total Maximum Daily Load.
39. “UCC” is an acronym for LFUCG’s Urban County Council.
40. “WH” is an acronym for West Hickman.
41. “WR” is an acronym for Wolf Run.
42. “WWTP” is an acronym for Wastewater Treatment Plant.

## **DEFINITIONS**

See Part I.C. of LFUCG’s KPDES MS4 Permit effective June 1, 2015.

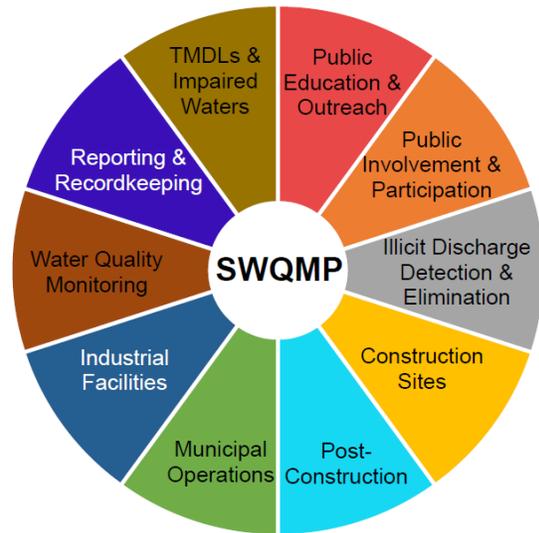
## **Introduction**

This document contains Lexington-Fayette Urban County Government's (LFUCG's) revised Stormwater Quality Management Program (SWQMP) that reflects the updated requirements in the Municipal Separate Storm Sewer System (MS4) discharge permit received from the Kentucky Division of Water in 2015. The SWQMP is a requirement of Part II.B. of the Kentucky Pollutant Discharge Elimination System (KPDES) Permit effective June 1, 2015 for LFUCG. The SWQMP is a comprehensive program to manage the quality of stormwater discharged from the MS4 and is an integral part of LFUCG's watershed management plan. The SWQMP was prepared primarily by staff from the Department of Environmental Quality and Public Works' Division of Water Quality, although other Divisions, Departments, and Offices within LFUCG were consulted during its development and will be involved in implementing the program. The SWQMP is intended to be detailed in regards to building upon the programs put in place beginning in 2008 and to continue implementing the stormwater best management practices to ensure LFUCG personnel in the various departments and divisions have ample guidance and instruction. The SWQMP will also allow LFUCG to allocate financial resources in an efficient and effective manner, consistent with the objectives of the permit.

The content of the SWQMP is based on the terms and conditions of the KPDES Permit for the MS4. When implemented holistically, the sections of the SWQMP should build upon each other to improve water quality before it reaches the MS4 or the Waters of the Commonwealth. The SWQMP addresses the specific requirements for the following program elements in the permit:

## LFUCG Stormwater Quality Management Program

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management in New Development and Redevelopment
- Pollution Prevention for Municipal Operations
- Industrial Facility Stormwater Pollution Prevention
- Water Quality Monitoring
- Reporting and Recordkeeping



An additional program, **Total Maximum Daily Loads and Impaired Waters**, was included in the SWQMP even though the requirements regarding TMDLs and Impaired Waters reside in other portions of the permit. This program will serve to document the activities and efforts by LFUCG to implement the stormwater Wasteload Allocation reductions in TMDLs and to work toward lessening the impacts of new or expanded development on impaired waters which do not yet have an EPA-approved TMDL report.

LFUCG's renewed KPDES Permit for its MS4 will apply to its MS4 throughout Fayette County due to LFUCG's status as a merged urban-county government; however, not all the SWQMP elements apply in rural areas of Fayette County. The following programs do not apply outside "Urban Areas," as defined in the MS4 Permit: Illicit Discharge Detection and Elimination (except as associated with the industrial facilities program), Post-Construction Stormwater Management

in New Development and Redevelopment, and Pollution Prevention for Municipal Operations.

To implement the SWQMP, input will be needed from Division of Water Quality staff, along with other LFUCG Divisions and Departments, the business community, and citizen groups as part of a stakeholder involvement process.

To be successful, the SWQMP must be easy to understand and implement. Keeping this in mind, it was developed by following the guiding principle that the SWQMP be clear, simple, and written in such a way that LFUCG staff responsible for stormwater quality can implement program elements. The objective is to ensure that staff understand their responsibilities, and that measurable goals are established to document the effectiveness of the program.

Each section of the SWQMP was developed by inserting the objectives and program element language from the KPDES Permit and then developing tables of tasks/activities/Best Management Practices (BMPs) with their frequency and responsible party noted, along with a set of required documentation to submit with the MS4 Annual Reports to show that each measurable goal has been met. As each of the programs elements were developed, the following items were addressed:

- specific requirements of the KPDES Permit.
- schedule and other terms and conditions of the Clean Water Act Consent Decree with the Commonwealth of Kentucky and the United States of America.
- existing procedures that need to be reviewed and potentially updated, and new procedures that need to be developed.
- documentation necessary to measure the effectiveness of the program.

As stated above, the format and content of the SWQMP is tied directly to the KPDES Permit for the MS4. The following two tables show the dates which correspond to deadlines that are stipulated in the KPDES Permit.

**Table 1 – MS4 Permit Year Beginning and Ending Dates**

MS4 Permit Year	Beginning and Ending Dates
1	June 1, 2015-May 31, 2016
2	June 1, 2016-May 31, 2017
3	June 1, 2017-May 31, 2018
4	June 1, 2018-May 31, 2019
5	June 1, 2019-May 31, 2020

**Table 2 – MS4 Annual Report and Calendar Year Activities**

Calendar Year Activities To Be Reported in the MS4 Annual Report	MS4 Annual Report Submittal Date
January 1, 2015-December 31, 2015	July 15, 2016
January 1, 2016-December 31, 2016	July 15, 2017
January 1, 2017-December 31, 2017	July 15, 2018
January 1, 2018-December 31, 2018	July 15, 2019
January 1, 2019-December 31, 2019	July 15, 2020
January 1, 2020-December 31, 2020	July 15, 2021*

\*This date may change if a new permit with new annual reporting deadlines is issued during 2020.

Most sections of the SWQMP also have an additional item or list of items that are not permit requirements, but that LFUCG intends to implement during this permit cycle.

**SWQMP Evaluation**

The SWQMP establishes numerous measurable goals that demonstrate LFUCG’s commitment to implementing an effective stormwater quality program. The measurable goals were developed after reviewing other programs across the nation and by reviewing the EPA document entitled MS4 Program Evaluation Guidance (January 2007). The ultimate goal of the SWQMP is to improve the water quality of the streams in Fayette County and prevent impacts from stormwater discharges from the MS4.

Periodic evaluation of the SWQMP is necessary to ensure ongoing improvement of the stormwater quality programs. In addition, the stormwater permit issued to LFUCG requires that each program element be evaluated for its effectiveness.

LFUCG intends to conduct an annual evaluation of the program to:

1. ensure compliance with the stormwater permit
2. obtain feedback to identify the strengths and weakness of the programs
3. ensure that public funds are being spent wisely toward reducing pollution in stormwater discharges from the MS4

As noted in the EPA MS4 Program Evaluation Guidance (January 2007), “evaluations not only demonstrate progress, but also allow the permittee to adjust programming, funding, or staffing levels for the upcoming year to best use existing resources to maximize water quality benefit.” The MS4 Guidance lists the following six levels of stormwater program outcomes:

**Table 3 – Levels of Stormwater Management Program Outcomes**

1. Compliance with activity-based permit requirements
2. Changes in attitudes, knowledge, and awareness
3. Behavioral change and BMP implementation
4. Pollutant load reductions
5. Changes in urban runoff and discharge quality
6. Changes in receiving water quality

The MS4 Guidance goes on to state the following:

*“Stormwater program managers may strive to achieve some or all of these outcomes; however, in general the “implementation outcomes” (1, 2, and 3 above) typically are easier to measure than the more complex goals of reducing loading and achieving changes in discharge and receiving water quality. In addition, these outcome levels are not independent of one another; the hope is that*

*movement towards one will result in progress towards achieving another.”*

The method used to evaluate the program elements of the SWQMP will consist of assessing whether the measurable goals within each program element have been met. The measurable goals consist of clearly defined tasks and schedules. The SWQMP includes a total of 186 measurable goals among ten program elements and programs as shown in Table 4 below.

**Table 4 – Number of Measurable Goals by Program**

<b>Program Element</b>	<b>No. of Measurable Goals</b>
1. Public Education and Outreach	19
2. Public Involvement and Participation	12
3. Illicit Discharge Detection and Elimination	29
4. Construction Site Stormwater Runoff Control	23
5. Post-Construction Stormwater Management in New Development and Redevelopment	30
6. Pollution Prevention for Municipal Operations	17
7. Industrial Facility Stormwater Pollution Prevention	20
8. Water Quality Monitoring	17
9. Reporting and Recordkeeping	2
10. Total Maximum Daily Loads and Impaired Waters	17
<b>Total</b>	<b>186</b>

LFUCG intends to have a third party conduct an audit of the stormwater program in Year 5 of the KPDES Permit. The purpose of the audit will be to identify deficiencies and make specific recommendations for improvement.

## **Community Background**

This section provides information on the community, including population, economy, and other relevant factors.

### **Name of the MS4 and Co-Permittees**

The Lexington-Fayette Urban County Government (LFUCG) is the owner and operator of the Municipal Separate Storm Sewer System (MS4). There are no co-permittees; however, the University of Kentucky owns and operates a separately permitted MS4 that lies completely within – and drains into – the LFUCG MS4, and the Kentucky Transportation Cabinet owns and operates a series of mostly linear MS4s in Lexington-Fayette County associated with state roadways.

### **Description of the Community and County**

Lexington is consolidated with Fayette County into an urban county government. Lexington is the second-largest city in Kentucky and the 61st largest in the United States. The city has a total area of 285.5 square miles. Lexington is located in the heart of the Inner Bluegrass Region of the state, and is known as “The Horse Capital of the World.” The 2014 census estimates Lexington’s population at 310,797, with a metropolitan area of 489,435. Lexington has a mayor-alderman form of government. Lexington has one of the nation's most stable economies, with diversity in manufacturing, technology, higher education, business, health care, services, and agriculture. The unemployment rate has averaged under 4% for the past year. Lexington is accommodating population growth and its agricultural base by defining an urban service area – where new development may occur – and through comprehensive planning and zoning.

The city is home to several large corporations, including Xerox, Lexmark International, Lockheed-Martin, and IBM, employing 3,000, 2,800, 1,705, and 552, respectively. United Parcel Service, Trane, and Amazon.com, Inc. have large operations in the city, and Toyota Motor Manufacturing Kentucky is within the Lexington Combined Statistical

Area (CSA), located in adjoining Georgetown. A Jif Peanut Butter Plant located in Lexington produces more peanut butter than any other factory in the world. Other notable businesses include Link-Belt Construction Equipment, a designer and manufacturer of telescopic and lattice boom cranes; Big Ass Solutions, a manufacturer of large ceiling fans and lighting fixtures for industrial, commercial, agricultural, and residential use; A&W Restaurants, a restaurant chain known for root beer and root beer floats; Fazoli's, a fast food Italian-style chain that has expanded to more than twenty states; Tempur Sealy International, a manufacturer of mattresses; Florida Tile, a manufacturer of porcelain and ceramic tile; and the Forcht Group of Kentucky, a holding company that employs more than 2,100 people across Kentucky. The city's largest employer, the University of Kentucky, employs about 14,000 people. The Fayette County Public Schools employ 5,374, and the Lexington-Fayette Urban County Government employs 2,699. Baptist Health, Kentucky One Health, and the Veterans Administration Hospital employ 7,000 persons collectively.

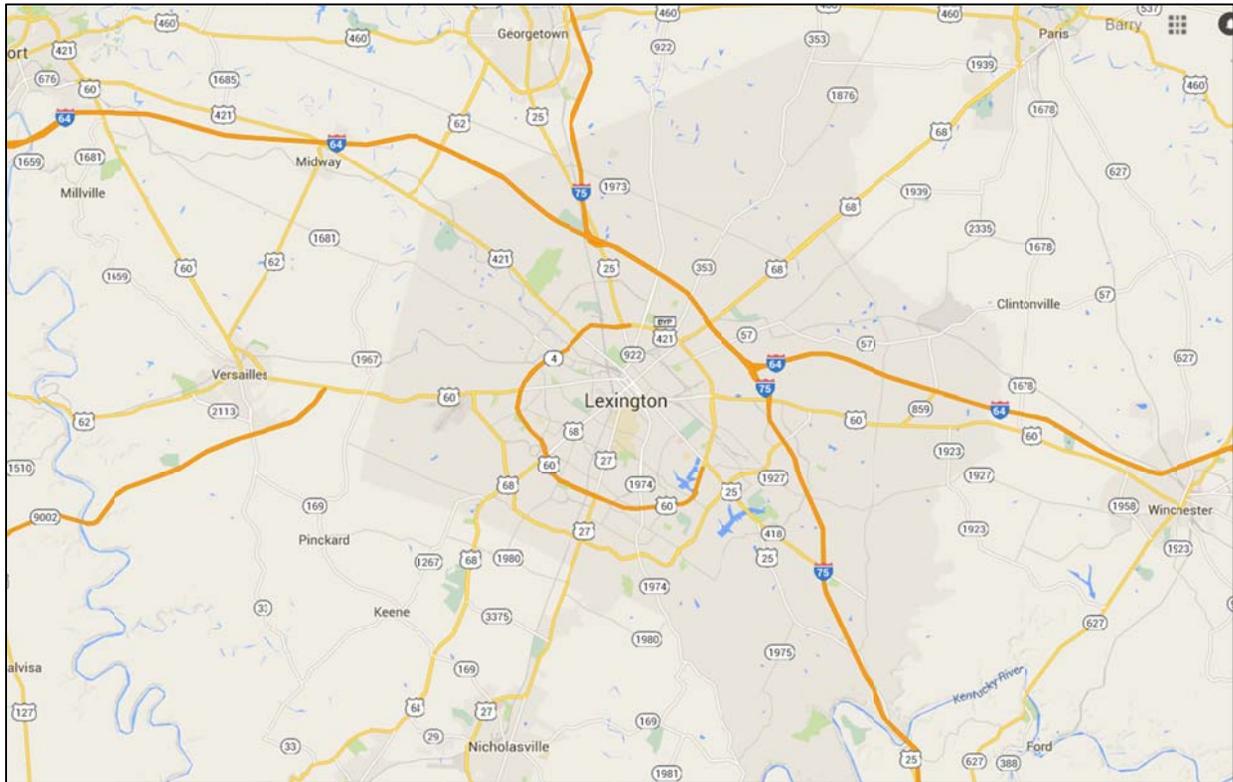
**Nearby Large Communities and Distances**

The table below lists distances between Lexington and other communities in Kentucky. Figure 1 indicates relative location of the closest cities.

**Table 1 – Distance Between Lexington and Other Kentucky Cities**

<b>City</b>	<b>Distance to Lexington</b>
Nicholasville	11 miles
Versailles	17 miles
Winchester	19 miles
Georgetown	23 miles
Richmond	24 miles
Frankfort	31 miles
Louisville	85 miles
Covington	88 miles

**Figure 1 – Map of the area surrounding Lexington, Kentucky**



### **County Seat**

Lexington is the county seat of Fayette County, Kentucky.

### **Major Transportation Corridors and Significant Landmarks**

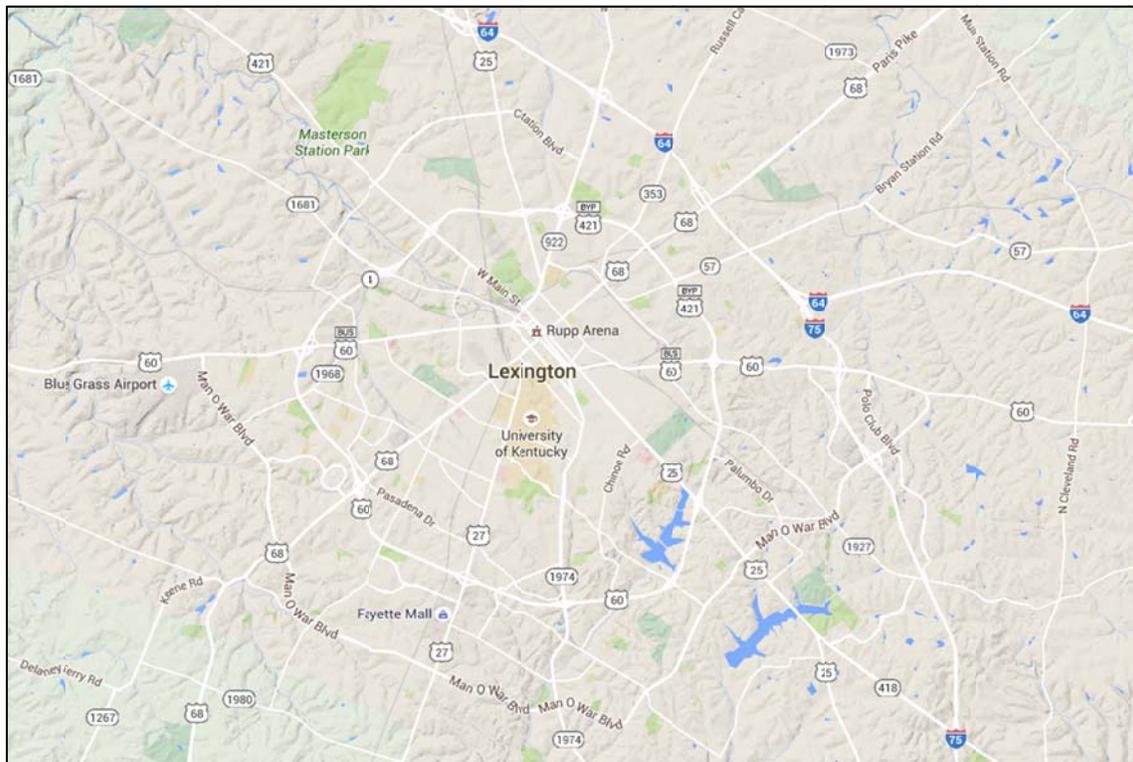
Lexington is the crossroads of several major roadways, including Interstates 75 and 64, and US Highways 25, 27, 60, 68, and 421. The roads are known locally as:

- US 25 – Georgetown Road to the north and Richmond Road to the south.
- US 27 – Paris Pike to the northeast and Nicholasville Road to the south.
- US 60 – Versailles Road to the west and Winchester Road to the east.
- US 68 – Harrodsburg Road to the southwest and Paris Pike to the northeast.
- US 421 – Leestown Road to the west and Richmond Road to the southeast.

Kentucky state highways include KY 4 (New Circle Road), KY 418 (Athens-Boonesboro Road), KY 922 (Newtown Pike), KY 1425 (formerly known as Bryant Road, is the segment of Man o' War Boulevard east of I-75), KY 1723 (Forbes Road), KY 1927

(Liberty Road and Todds Road), and KY 1974 (Tates Creek Road). Besides roadways, Lexington is served by Blue Grass Airport, a commercial airline facility, and CSX Transportation, which provides rail freight service. Figure 2 shows the major transportation corridors in and around Lexington.

**Figure 2 – Major transportation corridors in and around Lexington, Kentucky**



Significant city and county landmarks include the Kentucky Horse Park, The Red Mile, and Keeneland race courses, Rupp Arena, Transylvania University, the University of Kentucky, and Bluegrass Community & Technical College. The county is also home to Raven Run Nature Sanctuary, a 734-acre nature preserve along the Kentucky River Palisades; The Arboretum, a 100-acre preserve adjacent to the University of Kentucky; McConnell Springs, a 26-acre park off Old Frankfort Pike; and numerous horse farms, historical homes, springs, historic dry-laid stone fences, and other features.

### **Predominant Land Uses**

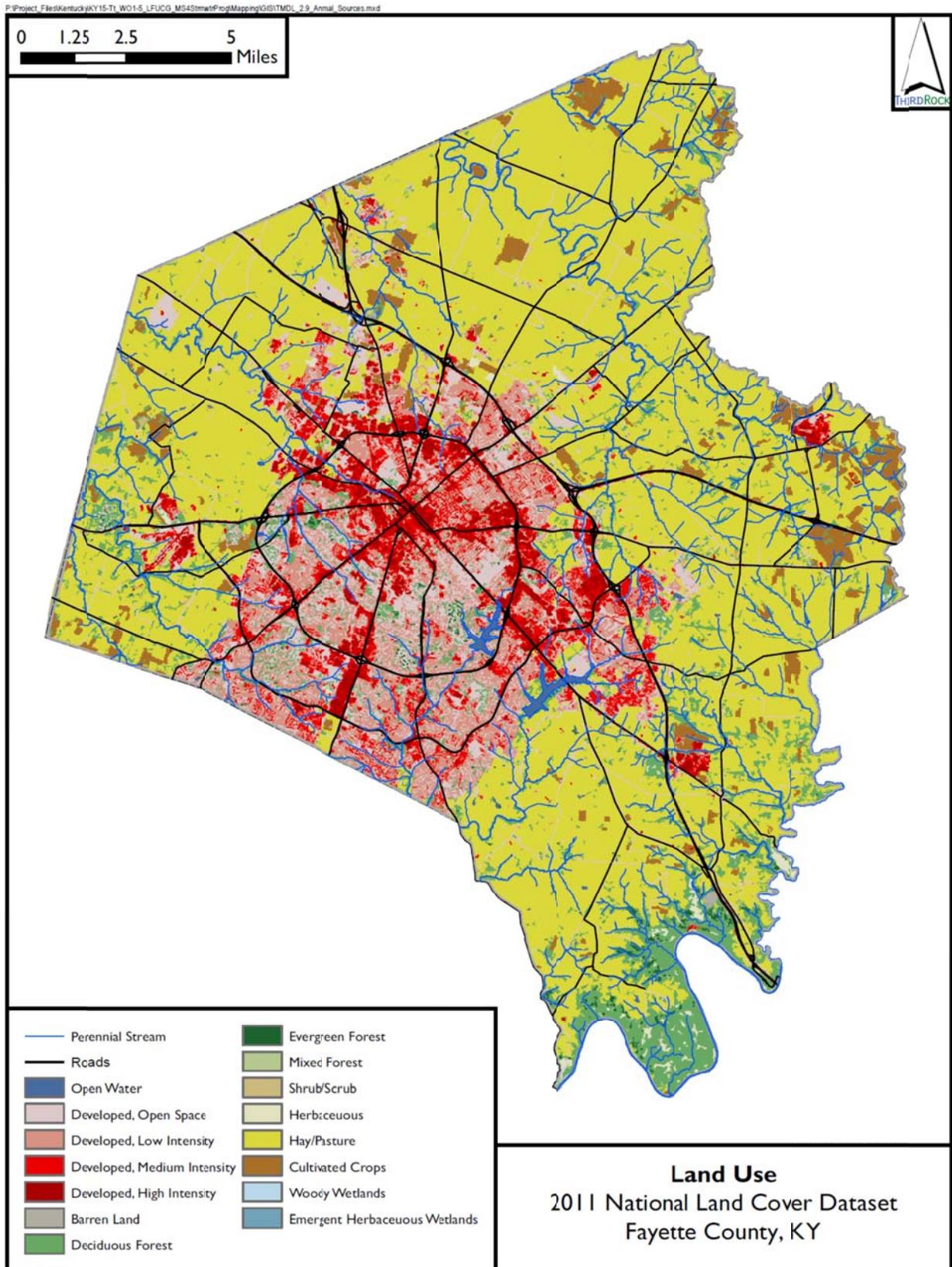
Predominant land uses in the MS4 area include urban development, high/medium/low density residential development, industrial, commercial, and agricultural (row crop and pasture land). See Figure 3 for a summary of predominant land uses and land cover.

### **Pertinent History and Trends – Population Changes, Land Uses, Etc.**

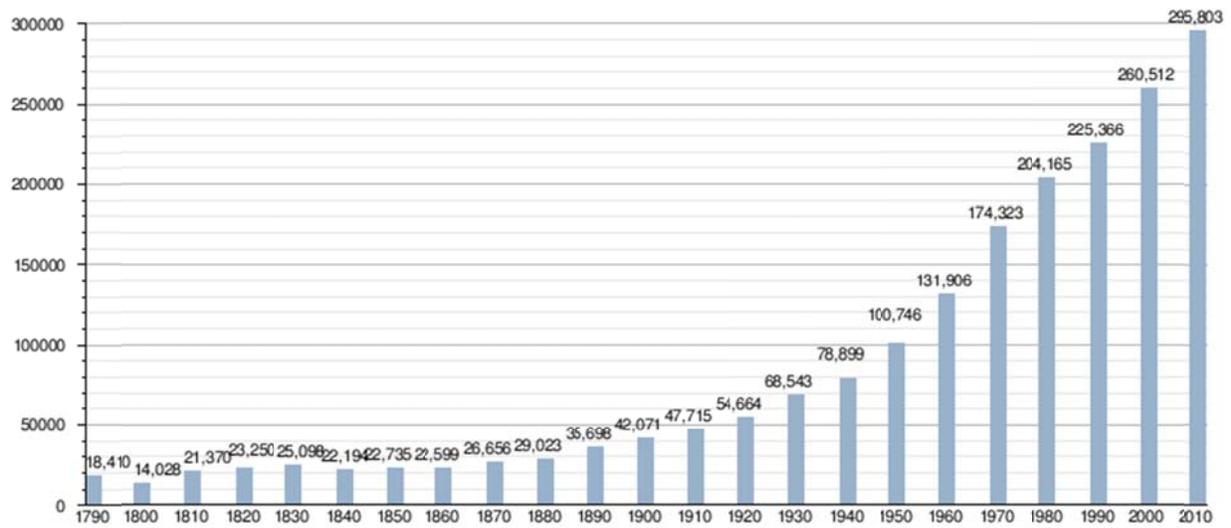
The 2014 census estimates Lexington's population at 310,797, with a metropolitan area of 489,435. Figure 4 shows the change in population from 1790 to 2010. The Lexington-Fayette metro area includes five counties: Clark, Jessamine, Bourbon, Woodford, and Scott. This is the second-largest metro area in Kentucky after that of Louisville. Lexington ranks tenth among U.S. cities in college education, with 39.5% of residents having at least a bachelor's degree.

Population density in Lexington is approximately 916 people per square mile. There are about 116,150 housing units, at an average density of 408 per square mile. The racial makeup of the city is about 81% white, 13% African American, 3.3% Hispanic/Latino, 2.5% Asian, and 0.2% Native American, with the remainder being comprised of Pacific Islander, mixed races, and/or other races. The average household size is 2.9 people per household. The median income for a household in the city is approximately \$39,813, and the median income for a family is \$53,264. The per capita income for the city is about \$23,109. About 8.2% of families and 12.9% of the population were below the poverty line.

**Figure 3 – Land use / land cover in Fayette County, Kentucky**



**Figure 4 – Population growth in Lexington from 1790 through 2010**



## **Local Water Resources**

This section provides information on the local water resources, including water quality conditions, water quantity issues, permitted facilities, and restoration projects.

### **Narrative Description of Local Water Resources**

Within Fayette County, 26 waterbody segments have been assessed by KDOW as impaired for their designated use. Of these, 17 have stormwater or municipal sources listed as a suspected source of impairment including two segments of Cane Run, two unnamed tributaries to Cane Run, East Hickman Creek, an unnamed tributary to East Hickman Creek, North Elkhorn Creek, an unnamed tributary to North Elkhorn Creek, David Fork, South Elkhorn Creek, three segments of Town Branch, West Hickman Creek, Wolf Run, Gardenside Spring, and McConnell Spring.

The impairments as well as the pollutants and suspected sources are summarized in Table 1. Additional information is displayed on the maps which follow.

Table 1 – Summary of Water Quality Impairments in Fayette County, Kentucky

Watershed	Waterbody & Segment	Total Size	Designated Use Support					Causes										Sources							
			Warmwater Aquatic Habitat	Primary Contact Recreation	Secondary Contact Recreation	Fish Consumption	Drinking Water Source	Pathogens	Chlorine	Habitat	Flow	Substrate	Sedimentation	Cond. / Diss. Solids	Nutrients	Sewage	Methylmercury	Agriculture	Habitat	Channelization	Riparian	Roads	Urban Stormwater	Point Sources	Landfills
Boone Creek	Baughman Fork 0.0 to 2.7 <sup>1</sup>	2.7 MILES	Partial	N/A	N/A	Fully	N/A							X	X	X							X		
Boone Creek	Baughman Fork 3.4 to 5.9	2.5 MILES	Fully	N/A	N/A	Fully	N/A																		
Boone Creek	UT to Baughman Fork 0.0 to 1.1	1.1 MILES	Non	N/A	N/A	N/A	N/A							X	X										X
Boone Creek	Boone Creek 0.0 to 7.4	7.4 MILES	Fully	N/A	N/A	N/A	N/A																		
Boone Creek	Boone Creek 7.4 to 12.6	5.2 MILES	Partial	Non	N/A	N/A	N/A	X							X		X								
Cane Run	Cane Run 3.0 to 9.6	6.6 MILES	Non	Non	N/A	N/A	N/A	X			X	X	X			X					X		X	X	
Cane Run	Cane Run 9.6 to 17.4	7.8 MILES	Non	Non	Non	N/A	N/A	X						X	X		X					X			
Cane Run	UT to Cane Run at RM 6.13, 0.0 to 3.5	3.5 MILES	Non	Non	N/A	N/A	N/A	X						X		X							X		
Cane Run	UT to Cane Run at RM 10.8, 0.0 to 2.4	2.4 MILES	Non	Non	N/A	N/A	N/A							X		X									
Cane Run	UT to Cane Run at RM 12.9, 0.0 to 2.1	2.1 MILES	Non	Non	N/A	N/A	N/A							X		X						X			
Cane Run	UT to Cane Run at RM 15.6, 0.0 to 0.9	0.9 MILES	N/A	Non	N/A	N/A	N/A	X														X			
East Hickman	East Hickman Creek 4.2 to 10.2	6 MILES	Partial	Non	N/A	N/A	N/A	X						X		X							X		
East Hickman	UT of East Hickman Creek 0.8 to 2.2	1.4 MILES	N/A	Non	N/A	N/A	N/A	X														X			
East Hickman	Reservoir No. 4 (Jacobson Reservoir)	271 ACRES	N/A	N/A	N/A	N/A	Fully																		
Kentucky	Kentucky River 153.75 to 209.8	56.05 MILES	Fully	Fully	Fully	Partial	Fully								X										X
North Elkhorn	David Fork 0.0 to 1.65	1.65 MILES	N/A	Non	N/A	N/A	N/A	X								X									
North Elkhorn	North Elkhorn Creek 44.75 to 86.0	21.25 MILES	Partial	N/A	N/A	N/A	N/A					X				X									
North Elkhorn	North Fork Elkhorn Creek 86.0 to 73.75	7.75 MILES	Partial	Non	N/A	N/A	N/A	X			X	X	X	X		X	X				X	X	X	X	X
North Elkhorn	UT to North Elkhorn Creek at RM 65.9, 0.0 to 5.6	5.6 MILES	Partial	N/A	N/A	N/A	N/A			X		X	X	X		X		X	X			X			
North Elkhorn	UT to North Elkhorn Creek at RM 71.1, 0.0 to 3.5 <sup>2</sup>	3.5 MILES	N/A	Non	N/A	N/A	N/A	X														X	X		
South Elkhorn	South Elkhorn Creek 34.5 to 52.7	18.2 MILES	Partial	Non	N/A	N/A	N/A	X	X	X		X	X	X	X		X		X	X					X
South Elkhorn	Steeles Run 0.0 to 5.1	5.1 MILES	Fully	Non	Non	N/A	N/A	X								X									
Town Branch	Town Branch 0.0 to 9.2	9.2 MILES	Partial	Non	N/A	N/A	N/A	X		X		X	X	X								X			
Town Branch	Town Branch 9.2 to 10.8	1.6 MILES	Partial	Non	N/A	N/A	N/A	X				X	X	X					X			X	X		
Town Branch	Town Branch 10.8 to 12.1	1.3 MILES	Non	Non	Non	N/A	N/A	X				X	X						X			X			X
West Hickman	West Hickman Creek 0.0 to 3.1	3.1 MILES	Partial	Partial	N/A	N/A	N/A	X						X	X							X	X		
West Hickman	West Hickman Creek 3.1 to 8.4	5.3 MILES	Partial	N/A	N/A	N/A	N/A					X	X	X	X							X			
West Hickman	Reservoir No. 1 (Lake Elerslie)	18.6 ACRES	N/A	N/A	N/A	N/A	Fully																		
Wolf Run	Wolf Run 0.0 to 4.4	4.4 MILES	Partial	Non	Non	N/A	N/A	X				X	X					X	X			X			
Wolf Run	Gardenside Spring	N/A	N/A	Non	N/A	N/A	N/A	X														X			
Wolf Run	McConnell Spring	N/A	N/A	Non	N/A	N/A	N/A	X														X			

<sup>1</sup> Changed from 0.0 to 2.7 to 1.5 to 2.7 in the TMDL.

<sup>2</sup> Changed from 0.0 to 3.5 to 0.0 to 2.9 in the TMDL.

**BOLD** New listing or assessment for 2012

0 Gradient shading indicates approved TMDL

Source: 2012 and 2010 Kentucky Division of Water, Integrated Report to Congress on the Condition of Water Resources in Kentucky. Available at: <http://water.ky.gov/waterquality/Pages/IntegratedReport.aspx>. Some causes and sources were aggregated for readability purposes. For more specific information about the causes and sources of impairment for each segment, see the 303(d) list.

Figure 1 – Warmwater aquatic habitat impairment areas in Fayette County, Kentucky

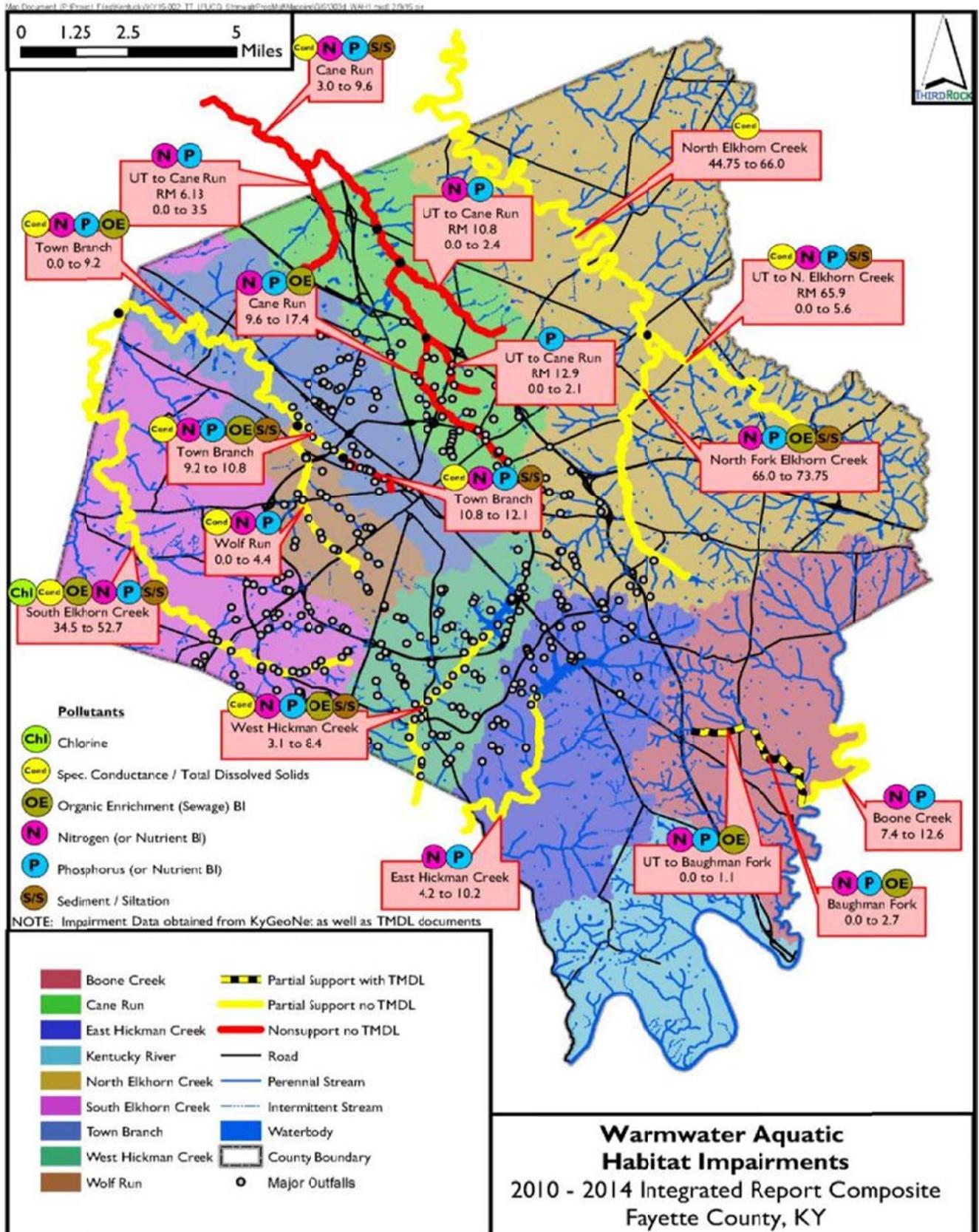
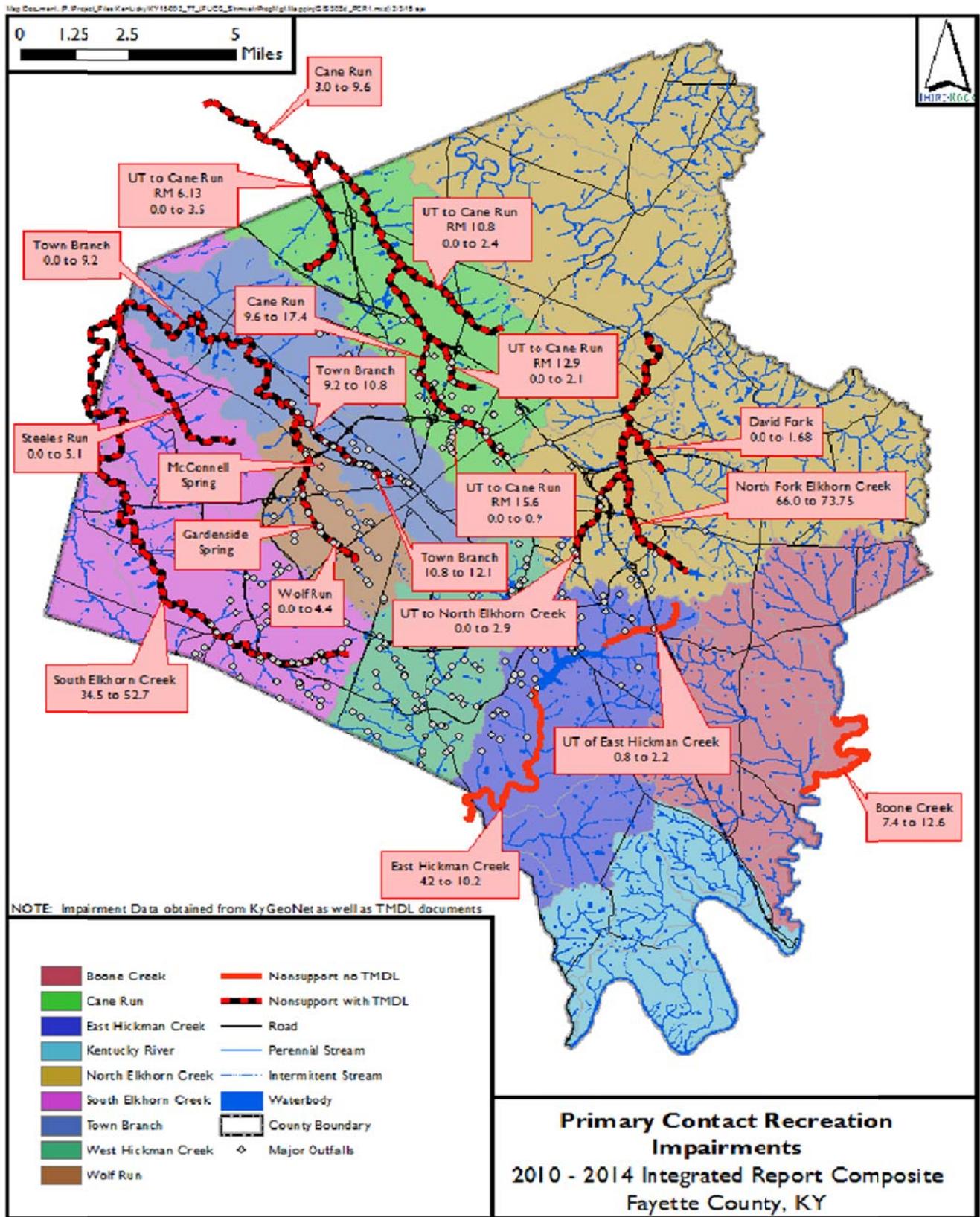
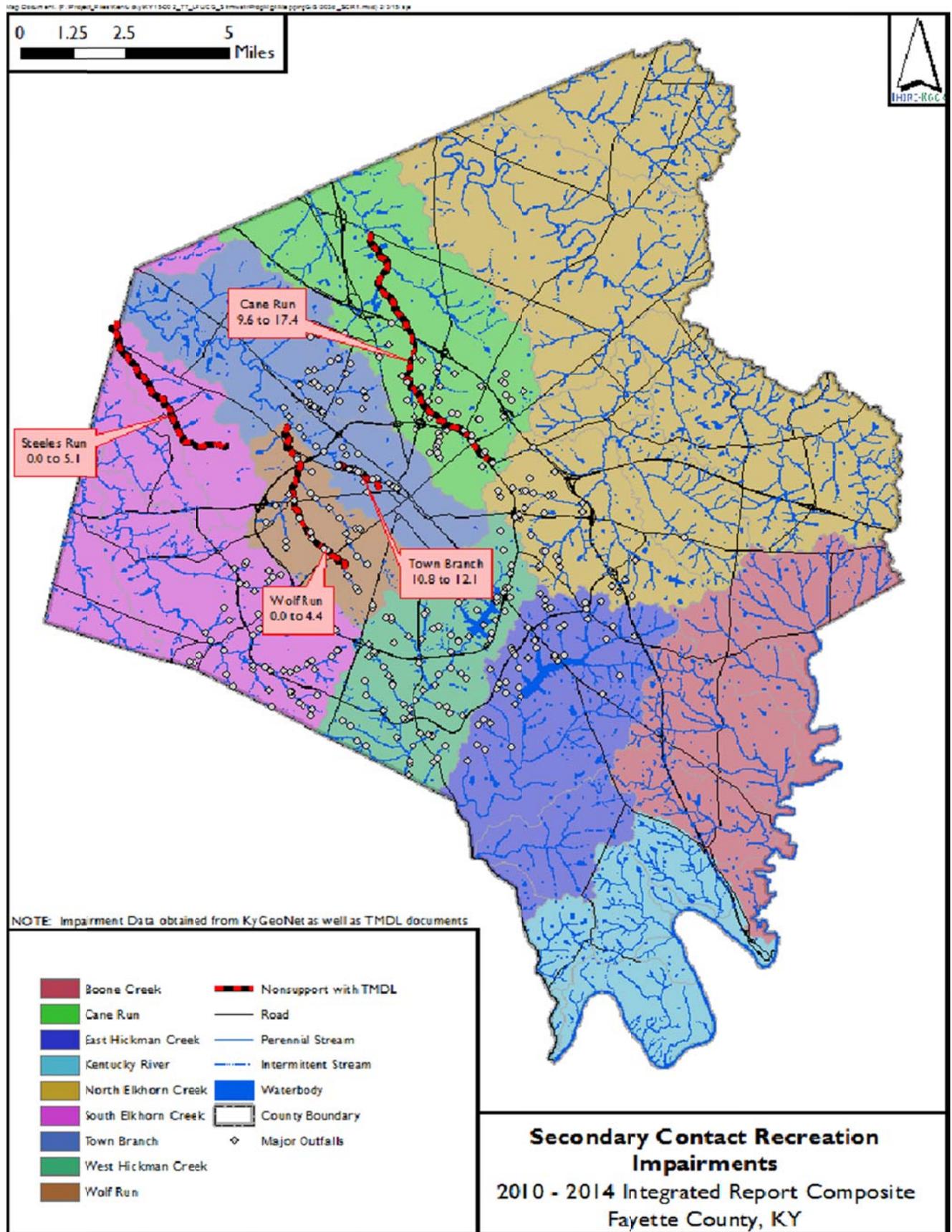


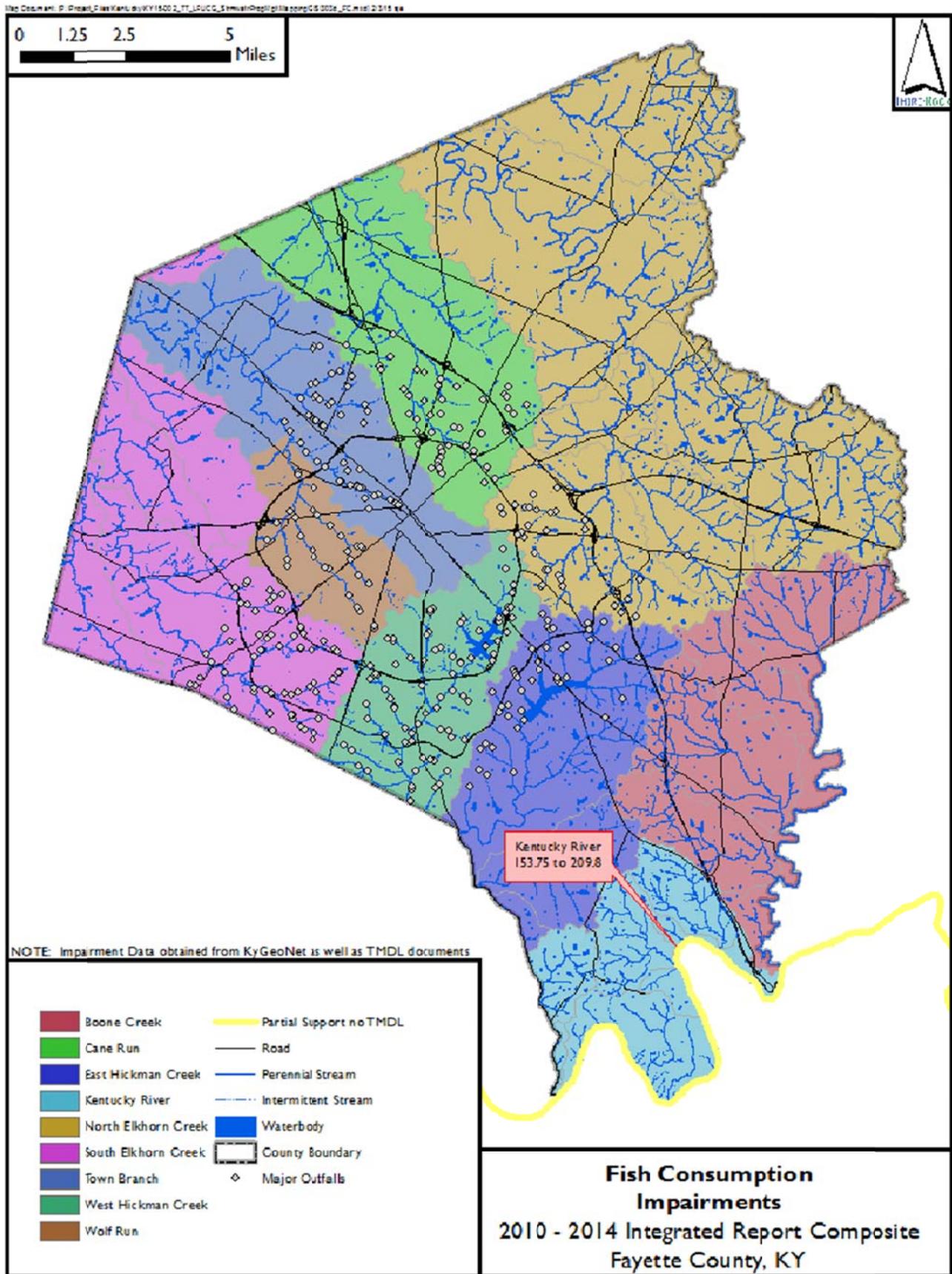
Figure 2 – Primary contact recreation impairment areas in Fayette County, Kentucky



**Figure 3 – Secondary contact recreation impairment areas in Fayette County, Kentucky**



**Figure 4 – Fish consumption impairment areas in Fayette County, Kentucky**



a. *Approved Total Maximum Daily Loads (TMDLs), Specific Pollutants, and Wasteload Allocations for the MS4*

Four TMDLs which address 18 stream segments have been approved for impaired waterbodies in Fayette County:

- “Total Maximum Daily Load Development for An Unnamed Tributary of Baughman Fork and Baughman Fork (Boone Creek Basin, Fayette County, Kentucky),” by the Kentucky Division of Water (July 2000)
- “Final Total Maximum Daily Load for Fecal Coliform, 7 Stream Segments within the Cane Run Watershed, Fayette and Scott Counties, Kentucky,” by Ormsbee et al and the Kentucky Division of Water (July 2013)
- “Final Total Maximum Daily Load for Fecal Coliform and *E. coli*, 9 Stream Segments and 2 Springs within the South Elkhorn Creek Watershed, Fayette, Franklin, Jessamine, Scott, and Woodford Counties, Kentucky,” by Ormsbee et al and the Kentucky Division of Water (July 2013)
- “Final Total Maximum Daily Load for *E. coli*, Three Stream Segments within the North Elkhorn Creek Watershed, Fayette County, Kentucky,” by the Kentucky Division of Water (June 2014).

*Baughman Fork TMDL*

The TMDL for Baughman Fork (River Mile 1.5 to 2.7) and an unnamed tributary (River Mile 0.0 to 1.5) addresses point sources due primarily to the Blue Sky Wastewater Treatment Plant (WWTP). TMDLs were computed in pounds per day (lbs/day) based on the allowable maximum concentration for carbonaceous biochemical oxygen demand (CBOD), nitrogen ammonia (NH<sub>3</sub>-N), total residual chlorine (TRC), and total phosphorus (TP) during the critical low-flow period. The targets for these parameters were to:

- Maintain dissolved oxygen (DO) concentration greater than 5.0 milligrams per liter (mg/L)
- Maintain ammonia concentrations less than 4 mg/L
- Eliminate effluent toxicity through the use of limits for total residual chlorine and chronic toxicity
- Reduce phosphorus concentrations to avoid nuisance algal blooms

The allocations are summarized in Table 2 for each parameter.

**Table 2 – Summary of TMDL Allocations for Baughman Fork and Its Unnamed Tributary**

Pollutant sources	Pollutant allocations in pounds per day			
	CBOD	NH3-N	TRC	TP
TMDL All Sources	55.1	7.35	0.014	1.25
TMDL Background Sources	0	0	0	0
TMDL WLAs Existing Permits	55.1	7.35	0.014	1.25
Existing Loads (YR2000)	10	29	0.04	7.5
Required Load Reductions	none	21.65	0.026	6.25

The TMDL discusses the implementation control options for the Blue Sky WWTP including:

- LFUCG to extend sewer lines to this area and eliminate the facility,
- KDOW to revoke the permit, and LFUCG or other entity to take over and operate the facility, or
- KDOW to apply enforcement on the current WWTP owner and require significant upgrades.

In 2003, LFUCG assumed emergency management of the WWTP. In 2014, LFUCG’s Division of Water Quality (DWQ) began constructing a pump station and force main to redirect sewage from the Blue Sky plant to the West Hickman Wastewater Treatment Plant. The Blue Sky WWTP was taken off line in October 2014. Therefore, LFUCG has implemented the TMDL and no additional obligations are considered necessary at this time.

*Bacteria TMDLs*

Fecal coliform (FC) and Escherichia coli (E. coli) are indicator organisms for pathogen or bacteria impairments related to human health. The water quality criteria (WQC) are established in 401 KAR 10:031. The KDOW WQC for the primary contact period (May 1 to October 31) is as follows:

“Fecal coliform content or Escherichia coli content shall not exceed 200 colonies per 100 ml or 130 colonies per 100 ml respectively as a geometric mean based on not less than five (5) samples taken during a thirty (30) day period. Content also shall not exceed 400 colonies per 100 ml in twenty (20) percent or more of all samples taken during a

thirty (30) day period for fecal coliform or 240 colonies per 100 ml for *Escherichia coli*.”

The bacteria TMDL allocations are summarized in Table 3 for each impaired waterbody segment. While the method used to calculate each of the TMDLs was different, in general the TMDL was established by multiplying the critical flow period by the regulatory limit (*i.e.*, the numeric water quality criterion), and then allocating sources. The Cane Run and South Elkhorn TMDLs used a multi-year period of flow (1997-2002), while the North Elkhorn TMDL utilized the flow associated with the critical condition, the highest exceedance of the water quality criteria.

**Table 3 – Primary Contact Recreation Bacteria TMDLs in Fayette County, Kentucky**

Stream Name	Pollutant	TMDL	MOS	SWS-WLA	MS4-WLA	MS4 Permittee	Future Growth-WLA	LA	Critical Flow Period
Cane Run 3.0 to 9.6	Fecal Coliform	4.91E+12	Implicit	0	1.98E+09	LFUCG / KYTC / Georgetown	1.48E+11	4.76E+12	1997-2002
Cane Run 9.6 to 17.4	Fecal Coliform	2.23E+12	Implicit	0	1.29E+10	LFUCG / KYTC	1.11E+11	2.10E+12	1997-2002
UT to Cane Run at RM 6.13 0.0 to 3.5	Fecal Coliform	1.36E+12	Implicit	5.68E+08	0	None	4.08E+10	1.32E+12	1997-2002
UT to Cane Run at RM 10.8 0.0 to 2.4	Fecal Coliform	1.19E+12	Implicit	0	6.43E+07	LFUCG / KYTC	2.38E+10	1.17E+12	1997-2002
UT to Cane Run at RM 12.9 0.0 to 2.1	Fecal Coliform	4.79E+11	Implicit	0	1.58E+09	LFUCG / KYTC	2.40E+10	4.53E+11	1997-2002
UT to Cane Run at RM 15.6 0.0 to 0.9	Fecal Coliform	1.40E+11	Implicit	0	7.01E+09	LFUCG / KYTC	7.00E+09	1.26E+11	1997-2002
North Elkhorn Creek 66.0 to 73.75	<i>E. coli</i>	1.04E+12	1.04E+11	0	5.87E+11	LFUCG / KYTC	4.70E+10	3.05E+11	High
David Fork 0.0 to 1.68	<i>E. coli</i>	3.28E+10	3.28E+10	0	1.02E+10	LFUCG / KYTC	5.91E+08	1.88E+10	Mid-Range
UT to North Elkhorn Creek 0.0 to 2.9	<i>E. coli</i>	3.49E+11	3.49E+11	0	2.44E+10	LFUCG / KYTC	1.57E+10	5.46E+10	High
South Elkhorn Creek 34.5 to 52.7	Fecal Coliform	2.63E+13	Implicit	3.83E+08	6.44E+10	LFUCG / KYTC / UK / Jess. Co.	1.05E+12	2.52E+13	1997-2002
Steeles Run 0.0 to 5.1	Fecal Coliform	3.15E+12	Implicit	0	4.42E+08	LFUCG / KYTC	3.15E+10	3.12E+12	1997-2002

LFUCG Stormwater Quality Management Program

Stream Name	Pollutant	TMDL	MOS	SWS-WLA	MS4-WLA	MS4 Permittee	Future Growth-WLA	LA	Critical Flow Period
Town Branch 0.0 to 9.2	Fecal Coliform	7.70E+12	Implicit	0	8.21E+09	LFUCG / KYTC	2.31E+11	7.46E+12	1997-2002
Town Branch 9.2 to 10.8	Fecal Coliform	4.84E+11	Implicit	2.27E+11	2.52E+09	LFUCG / KYTC	1.29E+10	2.42E+11	1997-2002
Town Branch 10.8 to 12.1	Fecal Coliform	1.80E+10	Implicit	0	4.44E+09	LFUCG / KYTC / UK	9.00E+08	1.27E+10	1997-2002
Wolf Run 0.0 to 4.4	Fecal Coliform	8.28E+11	Implicit	0	3.20E+10	LFUCG / KYTC / UK	4.14E+10	7.55E+11	1997-2002
Gardenside Spring	<i>E. coli</i>	5.87E+09	5.87E+08	0	4.35E+09	LFUCG / KYTC / UK	2.64E+08	6.68E+08	0.05 cfs
McConnell Spring	Fecal Coliform	2.94E+08	2.94E+07	0	2.18E+08	LFUCG / KYTC	1.32E+07	3.34E+07	0.6 cfs

NOTE: MOS = Margin of Error. WLA = Waste Load Allocation (allocations to KPDES-permitted dischargers), SWS = Sanitary Wastewater Systems, MS4 = Municipal Separate Storm Sewer System, LA = Load Allocation (non-permitted sources and natural background)

**b. Impaired Waterbodies with a TMDL Under Active Development**

There are no known TMDLs under development for Fayette County listed on the KDOW web site at <http://water.ky.gov/waterquality/Pages/TMDLProgram.aspx>. However, KDOW has indicated previously that TMDLs will be developed in the future for some stream segments, which are listed below in Table 4. There is no indication that these TMDLs are under active development at the present time.

**Table 4 – Stream Segments with Impairments and Possibly Pending TMDLs**

Stream Name	County	River Miles	Pollutant
Boone Creek into KY River	Fayette	7.4 to 12.6	Nutrient/Eutrophication Biological Indicators
Boone Creek into KY River	Fayette	7.4 to 12.6	Fecal Coliform
Cane Run into North Elkhorn Creek	Fayette	9.6 to 17.4	Organic Enrichment (Sewage) Biological Indicators
Cane Run into North Elkhorn Creek	Fayette	9.6 to 17.4	Nutrient/Eutrophication Biological Indicators

LFUCG Stormwater Quality Management Program

<b>Stream Name</b>	<b>County</b>	<b>River Miles</b>	<b>Pollutant</b>
East Hickman into Hickman Creek	Fayette	4.2 to 10.2	Fecal Coliform
East Hickman into Hickman Creek	Fayette	4.2 to 10.2	Nutrient/Eutrophication Biological Indicators
UT of East Hickman Creek	Fayette	0.8 to 2.2	Fecal Coliform
Town Branch into South Elkhorn Creek	Fayette	0.0 to 9.2	Nutrient/Eutrophication Biological Indicators
Town Branch into South Elkhorn Creek	Fayette	0.0 to 9.2	Organic Enrichment (Sewage) Biological Indicators
Town Branch into South Elkhorn Creek	Fayette	9.2 to 10.8	Organic Enrichment (Sewage) Biological Indicators
Town Branch into South Elkhorn Creek	Fayette	9.2 to 10.8	Nutrient/Eutrophication Biological Indicators
Wolf Run into Town Branch	Fayette	0.0 to 4.1	Nutrient/Eutrophication Biological Indicators

**c. Impaired Waterbodies and the Specific Pollutants Causing the Impairment**

**Table 5 – Detailed Information on Impaired Waterbodies in Fayette County, Kentucky**

Waterbody Segment	Length	Support*	Use*	Impairment Cause	Suspected Impairment Sources
Boone Creek 7.4 to 12.6	5.2 miles	NS	PCR	Fecal Coliform	Livestock (Grazing or Feeding Operations)
Boone Creek 7.4 to 12.6	5.2 miles	PS	WAH	Nutrient/Eutrophication Biological Indicators	Livestock (Grazing or Feeding Operations)
Cane Run 9.6 to 17.4	7.8 miles	NS	PCR	Fecal Coliform	Livestock (Grazing or Feeding Operations); Unspecified Urban Stormwater
Cane Run 9.6 to 17.4	7.8 miles	NS	SCR	Fecal Coliform	Livestock (Grazing or Feeding Operations); Unspecified Urban Stormwater
Cane Run 9.6 to 17.4	7.8 miles	NS	WAH	Nutrient/Eutrophication Biological Indicators	Livestock (Grazing or Feeding Operations); Unspecified Urban Stormwater
Cane Run 9.6 to 17.4	7.8 miles	NS	WAH	Organic Enrichment (Sewage) Biological Indicators	Livestock (Grazing or Feeding Operations); Unspecified Urban Stormwater
David Fork 0.0 to 1.65	1.65 miles	NS	PCR	Escherichia coli	Grazing in Riparian or Shoreline Zones; Livestock (Grazing or Feeding Operations); Managed Pasture Grazing
East Hickman Creek 4.1 to 10.5	6.4 miles	NS	PCR	Fecal Coliform	Livestock (Grazing or Feeding Operations); Unspecified Urban Stormwater
East Hickman Creek 4.1 to 10.5	6.4 miles	PS	WAH	Nutrient/Eutrophication Biological Indicators	Livestock (Grazing or Feeding Operations); Unspecified Urban Stormwater
North Elkhorn Creek 44.75 to 66.0	21.25 miles	PS	WAH	Specific Conductance	Agriculture
North Elkhorn Creek 66.0 to 73.75	7.75 miles	NS	PCR	Fecal Coliform	Source Unknown
North Elkhorn Creek 66.0 to 73.75	7.75 miles	PS	WAH	Nutrient/Eutrophication Biological Indicators	Municipal Point Source Discharges
North Elkhorn Creek 66.0 to 73.75	7.75 miles	PS	WAH	Organic Enrichment (Sewage) Biological Indicators	Agriculture
North Elkhorn Creek 66.0 to 73.75	7.75 miles	PS	WAH	Sedimentation/Siltation	Agriculture; Habitat Modification - Other than Hydromodification
Steeles Run 0.0 to 5.1	5.1 miles	NS	PCR	Fecal Coliform	Agriculture; Manure Runoff
Steeles Run 0.0 to 5.1	5.1 miles	NS	SCR	Fecal Coliform	Agriculture; Manure Runoff

LFUCG Stormwater Quality Management Program

<b>Waterbody Segment</b>	<b>Length</b>	<b>Support*</b>	<b>Use*</b>	<b>Impairment Cause</b>	<b>Suspected Impairment Sources</b>
Town Branch 0.0 to 9.2	9.2 miles	NS	PCR	Fecal Coliform	Municipal Point Source Discharges; Unspecified Urban Stormwater
Town Branch 0.0 to 9.2	9.2 miles	PS	WAH	Nutrient/Eutrophication Biological Indicators	Agriculture; Municipal Point Source Discharges; Urban Runoff/Storm Sewers
Town Branch 0.0 to 9.2	9.2 miles	PS	WAH	Organic Enrichment (Sewage) Biological Indicators	Municipal Point Source Discharges
Town Branch 0.0 to 9.2	9.2 miles	PS	WAH	Specific Conductance	Agriculture; Municipal Point Source Discharges; Urban Runoff/Storm Sewers
Town Branch 9.2 to 10.8	1.6 miles	NS	PCR	Fecal Coliform	Municipal Point Source Discharges; Urban Runoff/Storm Sewers
Town Branch 9.2 to 10.8	1.6 miles	PS	WAH	Nutrient/Eutrophication Biological Indicators	Loss of Riparian Habitat; Municipal (Urbanized High Density Area; Municipal Point Source Discharges); Urban Runoff/Storm Sewers
Town Branch 9.2 to 10.8	1.6 miles	PS	WAH	Organic Enrichment (Sewage) Biological Indicators	Loss of Riparian Habitat; Municipal Point Source Discharges; Urban Runoff/Storm Sewers
Town Branch 9.2 to 10.8	1.6 miles	PS	WAH	Sedimentation/Siltation	Loss of Riparian Habitat; Municipal (Urbanized High Density Area)
Town Branch 9.2 to 10.8	1.6 miles	PS	WAH	Specific Conductance	Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Municipal Point Source Discharges
Town Branch 10.8 to 12.1	1.3 miles	NS	PCR	Fecal Coliform	Municipal (Urbanized High Density Area); Unspecified Urban Stormwater
Town Branch 10.8 to 12.1	1.3 miles	NS	SCR	Fecal Coliform	Municipal (Urbanized High Density Area); Unspecified Urban Stormwater
Town Branch 10.8 to 12.1	1.3 miles	NS	WAH	Nutrient/Eutrophication Biological Indicators	Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Non-Point Source
Town Branch 10.8 to 12.1	1.3 miles	NS	WAH	Sedimentation/Siltation	Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Non-Point Source
Town Branch 10.8 to 12.1	1.3 miles	NS	WAH	Specific Conductance	Loss of Riparian Habitat; Municipal (Urbanized High Density Area); Non-Point Source
UT of E. Hickman Creek 0.8 to 2.2	1.4 miles	NS	PCR	Fecal Coliform	Urban Runoff/Storm Sewers
UT to Cane Run 0.0 to 2.1	2.1 miles	NS	WAH	Phosphorus (Total)	Managed Pasture Grazing; Non-irrigated Crop Production; Unspecified Urban Stormwater
UT to Cane Run 0.0 to 2.4	2.4 miles	NS	WAH	Nitrogen (Total)	Managed Pasture Grazing; Non-irrigated Crop Production
UT to Cane Run 0.0 to 2.4	2.4 miles	NS	WAH	Phosphorus (Total)	Managed Pasture Grazing; Non-irrigated Crop Production
UT to N. Elkhorn Creek 0.0 to 5.6	5.6 miles	PS	WAH	Nutrient/Eutrophication Biological Indicators	Managed Pasture Grazing

LFUCG Stormwater Quality Management Program

Waterbody Segment	Length	Support*	Use*	Impairment Cause	Suspected Impairment Sources
UT to N. Elkhorn Creek 0.0 to 5.6	5.6 miles	PS	WAH	Sedimentation/Siltation	Loss of Riparian Habitat; Managed Pasture Grazing; Post-development Erosion and Sedimentation; Streambank Modifications/Destabilization
UT to N. Elkhorn Creek 0.0 to 5.6	5.6 miles	PS	WAH	Total Dissolved Solids	Managed Pasture Grazing
UT to N. Elkhorn Creek 0.0 to 3.5	3.5 miles	NS	PCR	Escherichia coli	Discharges from Municipal Separate Storm Sewer Systems (MS4); Municipal (Urbanized High Density Area); Residential Districts; Sanitary Sewer Overflows (Collection System Failures); Wet Weather Discharges (Non-Point Source)
West Hickman Creek 3.1 to 8.4	5.3 miles	PS	WAH	Nutrient/Eutrophication Biological Indicators	Residential Districts; Unspecified Urban Stormwater
West Hickman Creek 3.1 to 8.4	5.3 miles	PS	WAH	Organic Enrichment (Sewage) Biological Indicators	Residential Districts; Unspecified Urban Stormwater
West Hickman Creek 3.1 to 8.4	5.3 miles	PS	WAH	Sedimentation/Siltation	Unspecified Urban Stormwater
West Hickman Creek 3.1 to 8.4	5.3 miles	PS	WAH	Specific Conductance	Residential Districts
Wolf Run 0.0 to 4.4	4.4 miles	NS	PCR	Fecal Coliform	Unspecified Urban Stormwater; Urban Runoff/Storm Sewers
Wolf Run 0.0 to 4.4	4.4 miles	NS	SCR	Fecal Coliform	Unspecified Urban Stormwater; Urban Runoff/Storm Sewers
Wolf Run 0.0 to 4.4	4.4 miles	PS	WAH	Nutrient/Eutrophication Biological Indicators	Channelization; Loss of Riparian Habitat; Unspecified Urban Stormwater; Urban Runoff/Storm Sewers
Wolf Run 0.0 to 4.4	4.4 miles	PS	WAH	Specific Conductance	Channelization; Unspecified Urban Stormwater; Urban Runoff/Storm Sewers

*\*Table Notes: PS = Partial Support, NS = Nonsupport; WAH = Warmwater Aquatic Habitat, PCR = Primary Contact Recreation, SCR = Secondary Contact Recreation*

### d. Unimpaired Waterbodies Meeting Water Quality Standards

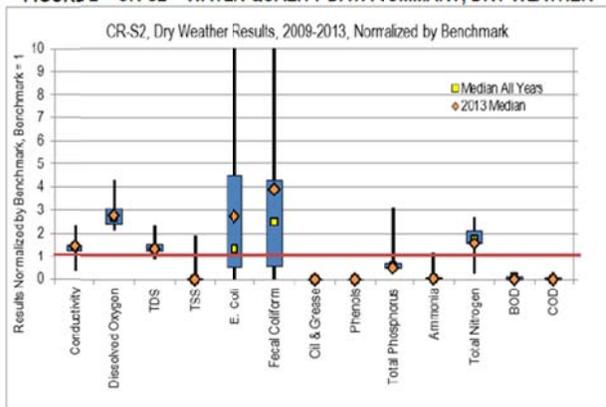
The figures earlier in this section contain maps which indicate the impaired stream reaches within Fayette County. All of the mainstem streams, and approximately one-third of the unnamed tributaries within the Urban Service Area are listed under CWA Section 303(d) for bacteria or other pollutants. The remaining unnamed tributaries are not presently listed. Water quality data for these segments are limited, in most cases. The summaries below provide information on the status of the unimpaired segments.

#### Summary Status: Cane Run

##### Watershed Health Overview

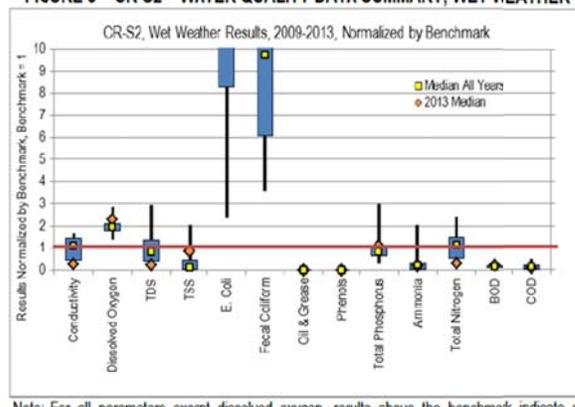
Biological	Macroinvertebrate scores from 2003 to 2013 are "fair" to "very poor" with the worst score in 2011. Fish scores from 2003 to 2013 are "poor" to "excellent." Low taxa richness due to frequent dry periods, and small watershed					
Habitat	41 sites in the Urban Service Area were assessed in 2012. All sites were rated "poor" with narrow riparian width, marginal velocity depth regime due to karst, and marginal niche cover the worst parameters.					
Water Quality	Category	Cond / Diss Sol.	Phosphorus	Nitrogen	<i>E.coli</i> / Fecal Coli.	Metals
	Dry Weather	Poor	Good	Poor	Poor	Good
	Wet Weather	Poor	Fair	Poor	Very Poor	Good
Comments:	Watershed assessment completed in 2013. Design for Coldstream SEP project completed in 2013. Numerous projects primarily focused in agricultural areas were implemented as a result of the UK watershed based plan completed in 2012. Large portions of the stream are frequently dry due to the heavy karst influence.					

FIGURE 2 – CR-S2 – WATER QUALITY DATA SUMMARY, DRY WEATHER



Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

FIGURE 3 – CR-S2 – WATER QUALITY DATA SUMMARY, WET WEATHER



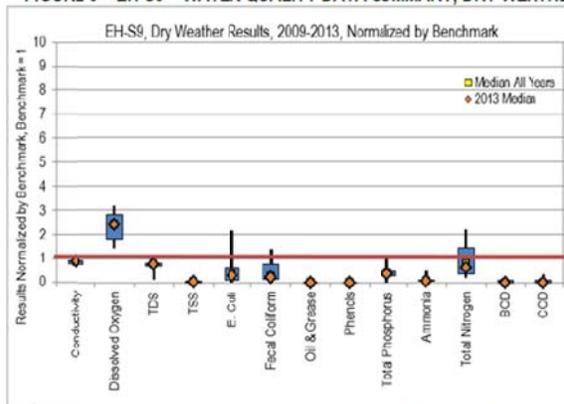
Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

Summary Status: East Hickman

Watershed Health Overview

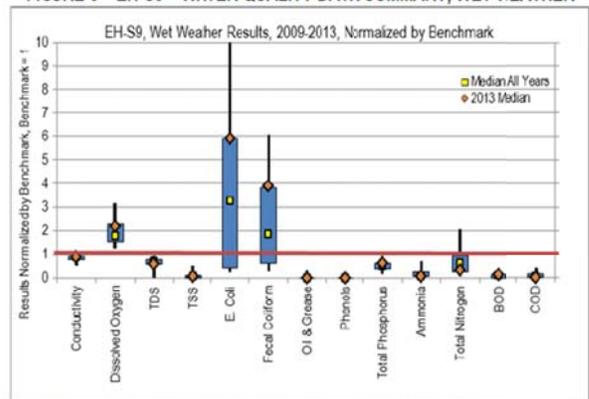
Biological	Macroinvertebrate scores from 2004 to 2013 are "good" to "poor" and some of highest richness of MS4 sampled streams. Fish scores from 2004 to 2013 are "fair" to "excellent" with higher scores on larger stream stations.					
Habitat	"Poor" habitat in the upstream locations, but "fair" to "good" in downstream reach. Narrow riparian width, low available cover, and sedimentation / embeddedness in some areas are the primary concerns for the areas					
Water Quality	Category	Cond / Diss Sol.	Phosphorus	Nitrogen	<i>E.coli</i> / Fecal Coli.	Metals
	Dry Weather	Good	Good	Good	Good	Good
	Wet Weather	Good	Good	Good	Very Poor	Good
Comments:	Watershed assessment completed in 2012. Wet weather <i>E. coli</i> and fecal coliform levels, continue to be problem issues. Nitrogen is a concern at the downstream portion of the watershed, and copper is a concern at one of the upstream stations during wet conditions. Low dissolved oxygen levels have been measured during both dry and wet weather in headwaters. Relative contributions from agriculture versus urban sources currently unknown.					

FIGURE 5 – EH-S9 – WATER QUALITY DATA SUMMARY, DRY WEATHER



Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

FIGURE 6 – EH-S9 – WATER QUALITY DATA SUMMARY, WET WEATHER



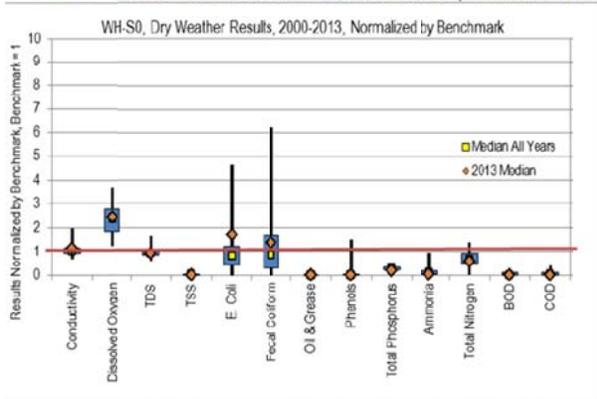
Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

Summary Status: West Hickman

Watershed Health Overview

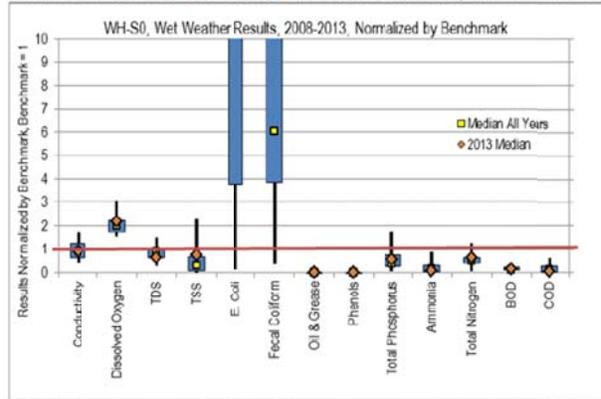
Biological	Macroinvertebrate scores from 2003 to 2013 are all "fair" indicating a stable community. Fish scores from 2003 to 2013 are "fair" to "good."					
Habitat	Habitat scores from 2004 to 2013 all "good" but only one location assessed over this period. Riparian width is marginal on average - the worst of the parameters..					
Water Quality	Category	Cond / Diss Sol.	Phosphorus	Nitrogen	<i>E.coli</i> / Fecal Coli.	Metals
	Dry Weather	Fair	Good	Good	Fair	Good
	Wet Weather	Fair	Good	Good	Very Poor	Good
Comments:	Watershed assessment completed in 2012. Microbial source tracking study indicates specific geographic areas and sources of elevated fecal input. Dissolved solids are also elevated. Although listed as a cause of impairment, nutrients do not appear to be elevated in this watershed.					

FIGURE 2 – WH-S0 – WATER QUALITY DATA SUMMARY, DRY WEATHER



Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

FIGURE 3 – WH-S0 – WATER QUALITY DATA SUMMARY, WET WEATHER



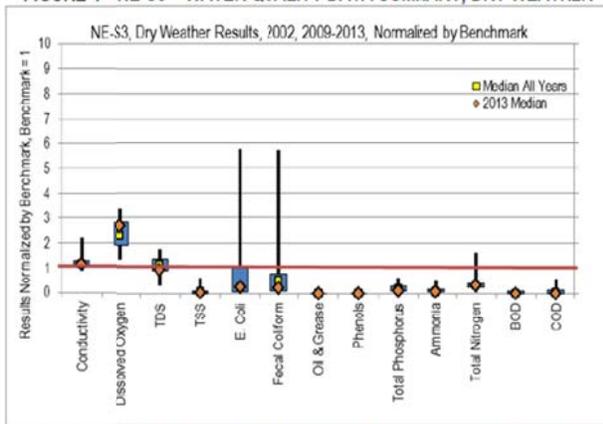
Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

Summary Status: North Elkhorn

Watershed Health Overview

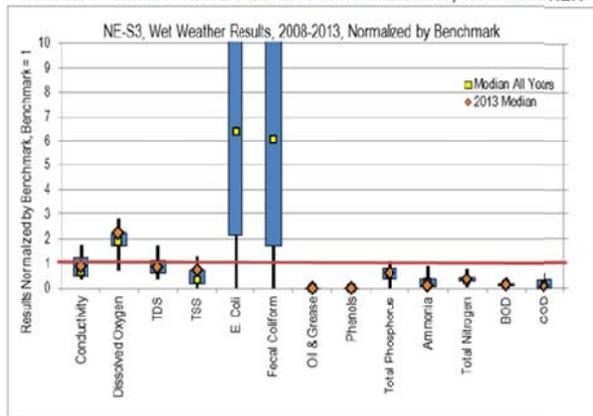
Biological	Macroinvertebrate scores from 2003 to 2013 are "good" to "poor" with downstream scores routinely higher than headwater scores. Fish scores from 2003 to 2013 are "fair" to "excellent."					
Habitat	40 sites in the Urban Service Area were assessed in 2012 - 39 rated "poor" and one "fair". Cover, embeddedness, velocity depth regime, and riparian width averaged marginal - the worst parameters.					
Water Quality	Category	Cond / Diss Sol.	Phosphorus	Nitrogen	<i>E.coli</i> / Fecal Coli.	Metals
	Dry Weather	Poor	Good	Good	Fair	Good
	Wet Weather	Fair	Good	Good	Very Poor	Good
Comments:	Watershed assessment scheduled for completion in 2014. Relative contribution of urban versus agricultural sources is unknown in some areas. Conductivity / dissolved solids (downstream station) and pathogens are primary concerns from urban areas. Continuous monitoring pilot study found high conductivity levels related to road salt, low dissolved oxygen during drought conditions, and pH exceedances.					

FIGURE 4 – NE-S3 – WATER QUALITY DATA SUMMARY, DRY WEATHER



Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

FIGURE 5 – NE-S3 – WATER QUALITY DATA SUMMARY, WET WEATHER



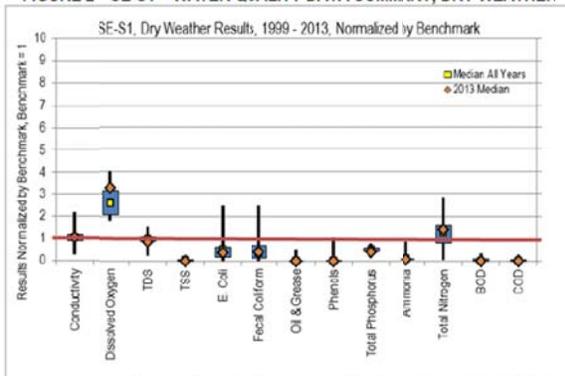
Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

Summary Status: South Elkhorn

Watershed Health Overview

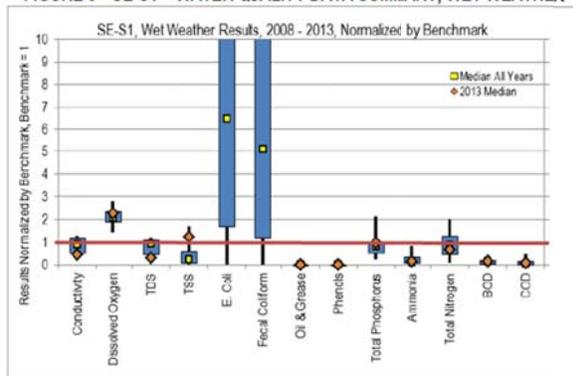
Biological	Macroinvertebrate scores from 2003 to 2013 are mostly "fair" with two "poor" ratings prior to 2006 indicating a stable community. Fish scores from 2003 to 2013 are "fair" to "excellent."					
Habitat	112 sites in the Urban Service Area were assessed in 2013 - 108 rated "poor", two "fair", and two "good". Riparian width & frequency of riffles / bends were "poor" on average. Most others were marginal.					
Water Quality	Category	Cond / Diss Sol.	Phosphorus	Nitrogen	<i>E.coli</i> / Fecal Coli.	Metals
	Dry Weather	Poor	Good	Poor	Good	Good
	Wet Weather	Poor	Good	Fair	Very Poor	Good
Comments:	Watershed assessment scheduled completed in 2014. Wet weather sources of fecal input are the primary contributor in the urban area while dry weather sources of nitrogen are elevated above wet weather sources. Total dissolved solids are a concern during both wet and dry conditions. Dry weather screening results indicate locations of some urban chlorine inputs.					

FIGURE 2 - SE-S1 - WATER QUALITY DATA SUMMARY, DRY WEATHER



Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

FIGURE 3 - SE-S1 - WATER QUALITY DATA SUMMARY, WET WEATHER



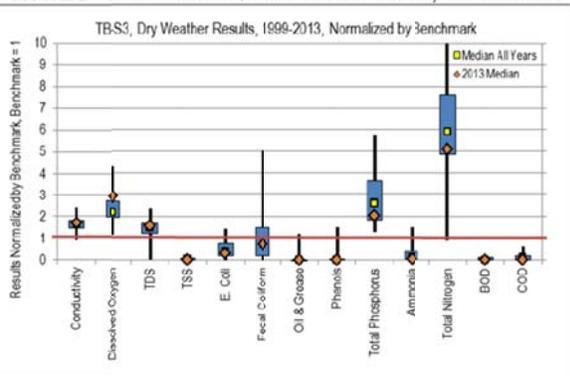
Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

Summary Status: Town Branch

Watershed Health Overview

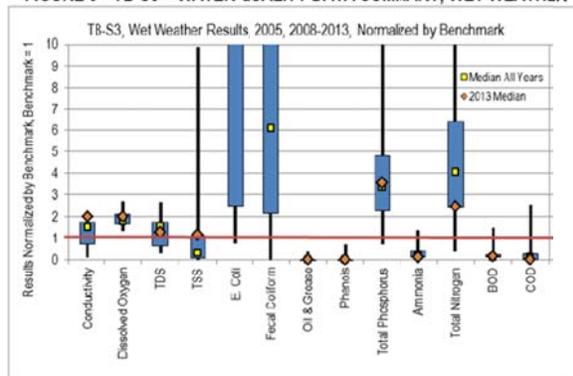
Biological	Macroinvertebrate scores from 2003 to 2013 are "fair" to "very poor" with the low taxa richness routinely at all sites. Fish scores from 2003 to 2013 are "fair" to "excellent."					
Habitat	45 sites in the Urban Service Area were assessed in 2012-13 - 35 rated "poor", five "fair", and five "good". Riparian width was "poor" on average. Cover, velocity depth regime, channel alteration, and frequency of riffles					
Water Quality	Category	Cond / Diss Sol	Phosphorus	Nitrogen	<i>E. coli</i> / Fecal Coli	Metals
	Dry Weather	Poor	Very Poor	Very Poor	Poor	Good
	Wet Weather	Poor	Very Poor	Very Poor	Very Poor	Good
Comments:	Watershed assessment completed in 2011. Overall water quality is the worst of the major watersheds. Town Branch WWTP provides major source of nutrient input while fecal input and dissolved solids sources include point and non-point sources. Improvement of instream habitat as well as reduction of key chemical parameters will be necessary to restore the aquatic community.					

FIGURE 2 – TB-S3 – WATER QUALITY DATA SUMMARY, DRY WEATHER



Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

FIGURE 3 – TB-S3 – WATER QUALITY DATA SUMMARY, WET WEATHER



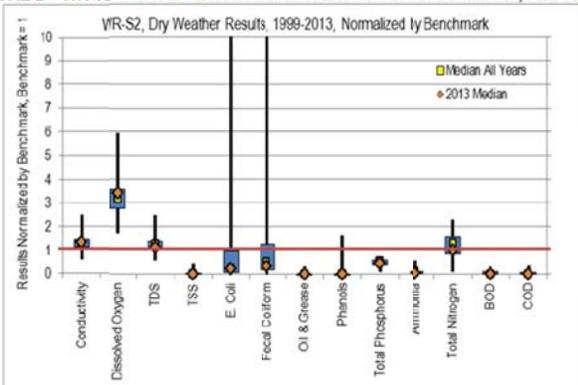
Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

Summary Status: Wolf Run

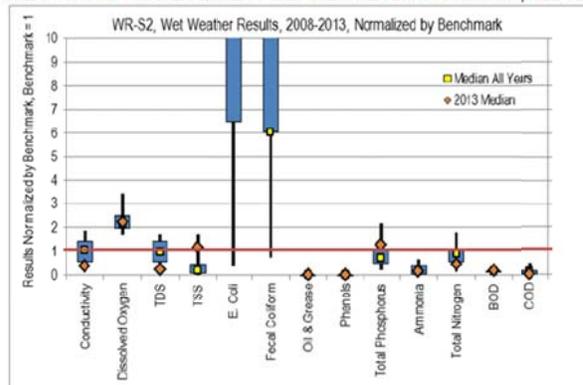
Watershed Health Overview

Biological	Macroinvertebrate scores from 2003 to 2013 all "poor." Additional 7 sites in watershed were "poor" to "very poor" in 2011 indicating these MS4 results are representative. Fish 2003 to 2013 are "fair" to "excellent."					
Habitat	Habitat scores at MS4 sites from 2003 to 2013 are "fair" to "poor." 2011 study of 33 reaches indicated "fair" to "poor" scores with narrow riparian zone width and lack of pools and available cover as primary problems.					
Water Quality	Category	Cond / Diss Sol.	Phosphorus	Nitrogen	<i>E. coli</i> / Fecal Coli.	Metals
	Dry Weather	Poor	Good	Poor	Fair	Good
	Wet Weather	Poor	Good	Fair	Very Poor	Good
Comments:	Watershed assessment completed in 2011; watershed based plan was completed in 2013. High velocity flows and lack of instream habitat are suspected as the primary causes of aquatic life impairment. Conductivity survey identified main sources in headwaters. Low dissolved oxygen levels detected at wide, bedrock streams under hot weather. Studies indicate humans as primary source of fecal pollution.					

URE 2 – WR-S2 – WATER QUALITY DRY WEATHER DATA SUMMARY, ALL YEARS FIGURE 3 – WR-S2 – WATER QUALITY WET WEATHER DATA SUMMARY, ALL YEAR



Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.



Note: For all parameters except dissolved oxygen, results above the benchmark indicate an exceedance of the benchmark. Dissolved oxygen is acceptable when above the benchmark.

**e. Special Use Waters in Fayette County**

There is one outstanding state resource water (Steeles Run of South Elkhorn) in Fayette County. It is located outside of the Urban Service Area.

**Summary Description of Water Quantity Issues – Drought, Flooding, and Water Withdrawals**

Water quantity issues are driven by rainfall, or the lack thereof, in Central Kentucky. Typically, water quantity is adequate for the needs of the Lexington-Fayette County population. It has been several years since Lexington has experienced an appreciable drought. As of late, too much rain too frequently has been the primary water quantity issue. The Consent Decree requires LFUCG to complete a Commonwealth

Environmental Project to prioritize flooding projects and implement \$30M in capital projects to address flooding by January 2021.

### **Additional Information on Unique Features – Karst, Reservoirs, Wetlands, and Altered Stream Channels**

Lexington and Fayette County are located in the Inner Bluegrass physiographic province. The Inner Bluegrass is characterized by gently rolling topography developed in thick layers of residual soils formed from weathering of limestones, dolomites, and shales. Deeply entrenched streams, including the Kentucky River, flow through eroded channels carved in resistant rock formations (e.g., Lexington Limestone, High Bridge Formation). These formations consist of fossiliferous and fossil-forming fragmental limestone with minor amounts of shale, and other micrite-rich limestones that are less fossiliferous.

The karst geology of the region is characterized by sinkholes, formed by dissolution in carbonate rock layers, and subsurface channels where joints or solution cavities form in soluble limestone or dolomite. This physiographic region features Ordovician (and some Silurian, and Devonian) age rocks are exposed at the surface. Residential, commercial, and industrial development has resulted in stream channel enlargement, entrenchment, and the loss of riparian vegetation throughout the MS4 area. Stream bottom elevation is controlled in many cases by bedrock, with lateral erosion evident.

Kentucky American Water Company operates a series of interconnected reservoirs in the upper reaches of West Hickman Creek and East Hickman Creek which are used as drinking water sources. Other smaller reservoirs – including some that have been converted to stormwater retention ponds – are found throughout the MS4 and adjacent areas.

Few wetlands remain within the MS4 area, though some efforts are underway to create and/or restore wetlands through the LFUCG Stormwater Incentive Grant Program.

Groundwater in Fayette County is directly linked to surface waters in many cases, though significant localized variations exist. In the North and South Forks of Elkhorn Creek, Hickman Creek, and Boone Creek and their major tributaries, most drilled wells in the valleys will produce enough water for a domestic supply at depths of less than 100 feet. Wells located in the creek valleys and the uplands of the northern and western two-thirds of the county and in the upper reaches of the creek valleys in the eastern third will produce enough water for a domestic supply except during dry weather. In the upland areas of the eastern third of Fayette County (about 10 percent of the county), most drilled wells will not produce enough water for a dependable domestic supply unless they are drilled along drainage lines, in which case they may produce enough water except during dry weather. Throughout the county groundwater is hard or very hard and may contain salt or hydrogen sulfide, especially at depths greater than 100 feet.

### **Location of Drinking Water Intakes and KPDES Facilities**

Kentucky American Water Company owns and operates the drinking water facilities in Lexington. There are three domestic water intakes in Lexington, operated by the Kentucky America Water Company. The drinking water system is served by a series of reservoirs and supplemented by a finished water pipe which transports water to Fayette County from a treatment plant on the Kentucky River north of Frankfort.

KPDES facilities include the two major wastewater treatment plants, on Town Branch and West Hickman Creek, the University of Kentucky MS4, and other facilities permitted under the Kentucky Division of Water Industrial General Permit Program. An updated list of industrial stormwater permittees appears in the MS4 Permit Annual Report submitted to KDOW each year.

### **Status of Recent Ongoing or Planned Restoration Activities to Protect Water Quality**

Lexington is approximately 30% of the way into a major program to improve stormwater quality and sanitary sewer collection, storage, and treatment. This program, estimated

## LFUCG Stormwater Quality Management Program

at approximately \$600 million over 15-20 years, includes sewer line replacements, pipe lining, pumping system upgrades, treatment capacity upgrades, and wet weather storage tanks to temporarily hold excess sanitary sewer flow after heavy rains. On the stormwater side, the program includes an upgraded construction site erosion control program, new stormwater management infrastructure, industrial and high risk commercial stormwater oversight, improved management of stormwater basins and ponds, and more stringent controls on stormwater in newly developed areas. Detailed information on both the sanitary sewer and stormwater programs is available at [www.lexingtonky.gov](http://www.lexingtonky.gov). A list of sanitary sewer capital projects being completed under the Remedial Measures Plans, a list of the Stormwater Priority Projects, and a list of stormwater projects funded under the LFUCG Stormwater Quality Projects Incentive Grant Program can be found on the city's website.

## Public Education and Outreach

PE 1 General Public & Stakeholder Education Program

PE 2 Community Meetings

PE 3 Stormwater Pollution Prevention & Watershed Management  
Training

PE A Additional

## Public Education and Outreach (PE)

**KPDES Permit Narrative from Part II:** “Public Education and Outreach on Stormwater Impacts - Implement a public education program and conduct public outreach activities in the community that collaborate on impacts from stormwater discharges to waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff, per applicable state and federal requirements.

“Compliance with these terms is achieved by implementing the program elements, as shown in Table 1 (Public Education and Outreach) in Section E of this Part, except where inconsistent with other provisions of this permit.”

**KPDES Permit Table 1 Objective:** “The objective is to increase public awareness of water quality issues associated with discharges to the municipal separate storm sewer system (MS4) and to promote stewardship of the waters of the Commonwealth within the scope of this permit.”

### KPDES Permit Narrative from Part III:

#### “ANNUAL REPORTING REQUIREMENTS

The permittee shall prepare an annual system-wide report to be submitted no later than July 15<sup>th</sup> of the year following the period covered by the report. The annual report shall cover the period beginning on January 1 through December 31, 2015, and annually thereafter. The annual report shall include but not be limited to:

...6. Status of the public education program, including success stories.”

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Program Element Effectiveness:** The success of the Public Education and Outreach program elements will be determined by comparing actual achievements to the measurable goals for each program element listed in this section.

## **PE 1 General Public & Stakeholder Education Program**

### **Program Elements from KPDES Permit Table 1 Section PE 1:**

“The permittee shall maintain a functional website that will have sections devoted to the homeowner, businesses, the construction industry, and public institutions to educate these audiences on the methods available to prevent pollution to the MS4.

“The permittee shall develop press releases to local media about the Stormwater Quality Management Program.

“The permittee shall develop, promote, and distribute an e-newsletter to educate community members who are interested in the MS4 Program.

“The permittee shall create a webpage on the city’s website that would incorporate maps, monitoring data and watershed assessment information for a test watershed. This may be presented as a Watershed Report Card. LFUCG should track the usage of the website by the public and if it deemed a valuable tool, the LFUCG would develop a schedule for creating webpages for the remaining watersheds.

“The permittee will maintain an email list for people interested in knowing more about the Stormwater Quality Management Program, and to inform the public about changes to the Stormwater Quality Management Program.

“The permittee shall make available educational materials, public service announcements, and/or multimedia presentations for homeowners and property owners related to point and non-point source pollution, household hazardous waste, and proper lawn care practices.

“The permittee shall make available educational materials and/or multimedia presentations for area businesses related to point and non-point source pollution and stormwater pollution prevention measures for grounds maintenance and operational procedures.

“The permittee shall make available educational materials and/or multimedia presentations for the construction industry related to point and non-point source pollution and stormwater pollution prevention measures for operational procedures and erosion and sediment controls.

“The permittee shall make available educational materials and/or multimedia presentations for public institutions related to point and non-point source pollution and stormwater pollution prevention for erosion and sediment controls, grounds maintenance, capital construction projects, and institutional educational and operational programming.”

**Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 1 Section PE 1. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PE 1 – General Public & Stakeholder Education Program**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Provide Stormwater and Water Quality Education via the Internet	MG-PE-01: Maintain a functional webpage at <a href="http://www.lexingtonky.gov">www.lexingtonky.gov</a> specific to each of the following audiences: homeowners, businesses, the construction industry, and public institutions, which include methods available to prevent pollution to the MS4. Each webpage will be reviewed annually and updated as needed.	X	X	X	X	X	DES
Provide Stormwater and Water Quality Education via Press Releases	MG-PE-02: Develop four (4) press releases per year that pertain to the Stormwater Quality Management Program.	X	X	X	X	X	DES
Provide Stormwater and Water Quality Education via an E-newsletter	MG-PE-03: Publish and distribute one (1) e-newsletter once in every six (6)-month period to citizens interested local water quality and quantity.	X	X	X	X	X	DES
	MG-PE-04: Maintain the email distribution list of citizens interested in the MS4 and Stormwater Quality Management Program. This email distribution list will be used to disseminate the e-newsletters and to inform interested citizens about changes to the Stormwater Quality Management Program. The list will be reviewed annually and updated as needed.	X	X	X	X	X	DES
Provide Watershed-Specific Education via an On-line Report Card Tool	MG-PE-05: Develop a Watershed Report Card pilot webpage for one (1) watershed during Year 1 that includes maps, monitoring data, and watershed assessment information.	X					DES
	MG-PE-06: Track the usage of the Watershed Report Card pilot webpage during Year 2 and based on the perceived value of the tool make a recommendation to KDOW for continuing or abandoning this tool during Year 3.		X	X			DES
Provide Targeted Outreach Messaging to Homeowners and Property Owners	See MG-PE-1 above.						
	MG-PE-07: Develop and maintain videos on stormwater and water quality topics relevant to homeowners and property owners to be shared through targeted outreach, social media, and other outlets.	X	X	X	X	X	DES
Provide Targeted Outreach Messaging to Businesses (Commercial & Industrial)	See MG-PE-1 above.						
	MG-PE-08: Develop and maintain videos on stormwater and water quality topics relevant to businesses and industries to be shared through targeted outreach, social media, and other outlets.	X	X	X	X	X	DES

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Provide Targeted Outreach Messaging to the Construction Industry	See MG-PE-1 above.						
	MG-PE-09: Develop and maintain videos on stormwater and water quality topics relevant to the construction industry to be shared through targeted outreach, social media, and other outlets.	X	X	X	X	X	DES
Provide Targeted Outreach Messaging to Public Institutions: Education & Management	See MG-PE-1 above.						
	MG-PE-10: Develop and maintain videos on stormwater and water quality topics relevant to institutions to be shared through targeted outreach, social media, and other outlets.	X	X	X	X	X	DES
Publish Success Stories	MG-PE-11: Develop and publish at least one success story about Lexington's stormwater program per permit year for inclusion in the annual report.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Provide Stormwater and Water Quality Education via the Internet – provide a link to the webpage for each audience; provide the date last updated for each webpage or summarize the content that was added/removed/updated.
2. Provide Stormwater Quality Management Education via Press Releases – provide a copy of each press release.
3. Provide Stormwater and Water Quality Education via an E-newsletter – provide a copy of each newsletter along with a copy of the distribution analytics.
4. Provide Stormwater and Water Quality Education via an E-newsletter – provide a count of the number email addresses on the distribution list.
5. Provide Watershed-Specific Education via an On-line Report Card Tool – provide a link to the pilot webpage for Year 1.
6. Provide Watershed-Specific Education via an On-line Report Card Tool – provide usage analytics for the webpage for Year 2, and provide a copy of the recommendation to KDOW for either expanding this tool for the remaining watersheds or abandoning this tool based on poor analytics results for Year 3.
7. Provide Targeted Outreach Messaging to Homeowners and Property Owners – provide links to the relevant videos for homeowners and property owners.
8. Provide Targeted Outreach Messaging to Businesses (Commercial & Industrial) – provide links to the relevant videos for businesses and industries.
9. Provide Targeted Outreach Messaging to the Construction Industry – provide links to the relevant videos for the construction industry.
10. Provide Targeted Outreach Messaging to Public Institutions: Education & Management – provide links to the relevant videos for public institutions.
11. Publish Success Stories – provide a copy of the success stories.

## **PE 2 Community Meetings**

### **Program Elements from KPDES Permit Table 1 Section PE 2:**

“The permittee shall conduct, facilitate, and/or participate in meetings of the public, boards of directors for community civic groups, governing councils, neighborhoods, public task forces, planning and zoning commissions, and/or civic groups; topics should include the MS4 permit or the Stormwater Quality Management Program.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 1 Section PE 2. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.



**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

12. Provide Information About Stormwater and Water Quality at Public Meetings – provide a copy of the invitation to speak, an agenda showing the speaker and topic, a copy of the sign-in sheet, photographs from the meeting, or copies of PowerPoint slides.

## **PE 3 Stormwater Pollution Prevention & Watershed Management Training**

### **Program Elements from KPDES Permit Table 1 Section PE 3:**

“The permittee shall facilitate and participate in training activities for K-12 schools and universities; topics should include the MS4 permit or the Stormwater Quality Management Program.

“The permittee shall participate in community training activities to promote water resource stewardship and the reduction of stormwater pollution. Potential opportunities would include Kentucky River Watershed Watch, Friends of Wolf Run, etc.

“The permittee shall perform an on-line survey of the public knowledge base and attitude about stormwater and the MS4 program using the LEXserv billing program or an effective equivalent.

“The permittee shall conduct training classes for applicable employees on the sources, impacts, and solutions of stormwater pollution.

“The permittee shall conduct a training session related to the Stormwater Quality Management Program for the Urban County Council’s Environmental Quality Committee and the Planning Commission.

“The permittee shall conduct, facilitate, and participate in technical training activities for businesses and industries. Training shall provide assistance to the construction industry regarding construction site runoff control and to businesses regarding pollution prevention measures for commercial and industrial sites.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 1 Section PE 3. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PE 3 – Stormwater Pollution Prevention & Watershed Management Training  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Provide Classroom Training	MG-PE-13: Facilitate or provide training related to the SWQMP to students in grades K-12, at the college or university level, and as requested or scheduled.	X	X	X	X	X	DES
Provide Community Training Opportunities	MG-PE-14: Participate in community training activities regarding water resource stewardship and the reduction of stormwater pollution as requested and scheduled.	X	X	X	X	X	DES
Conduct a Community Survey to Assess Public Knowledge and Attitudes About Stormwater and Water Quality	MG-PE-15: Develop an on-line survey to assess the public's knowledge, attitudes, and behaviors related to the stormwater and MS4 program. Advertise the survey via the LEXserv bills sent to customers and via the city's webpage. Conduct the survey by the end of Year 3 and again by the end of Year 5.			X		X	DES
	MG-PE-16: At the conclusion of the surveys, analyze and evaluate the responses from the two surveys and include the findings in the Year 5 annual report.					X	DES
Conduct Employee Training	MG-PE-17: Continue to provide Greenworks Guides during New Employee Orientation.	X	X	X	X	X	DES
	See applicable employee training measurable goals in IDDE/IN, CS, PPMO, and MON.						
Conduct Training for Elected Officials and the Development Community	MG-PE-18: Conduct an annual training session for the Urban County Council's Environmental Quality & Public Works Committee on the SWQMP.	X	X	X	X	X	DWQ
	MG-PE-19: Conduct an annual training session for the Planning Commission on the SWQMP.	X	X	X	X	X	DWQ
Conduct Training for the Business Community (Commercial & Industrial)	See applicable construction industry training measurable goals in CS.						
	See applicable commercial and industrial facility training measurable goals in IN.						

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

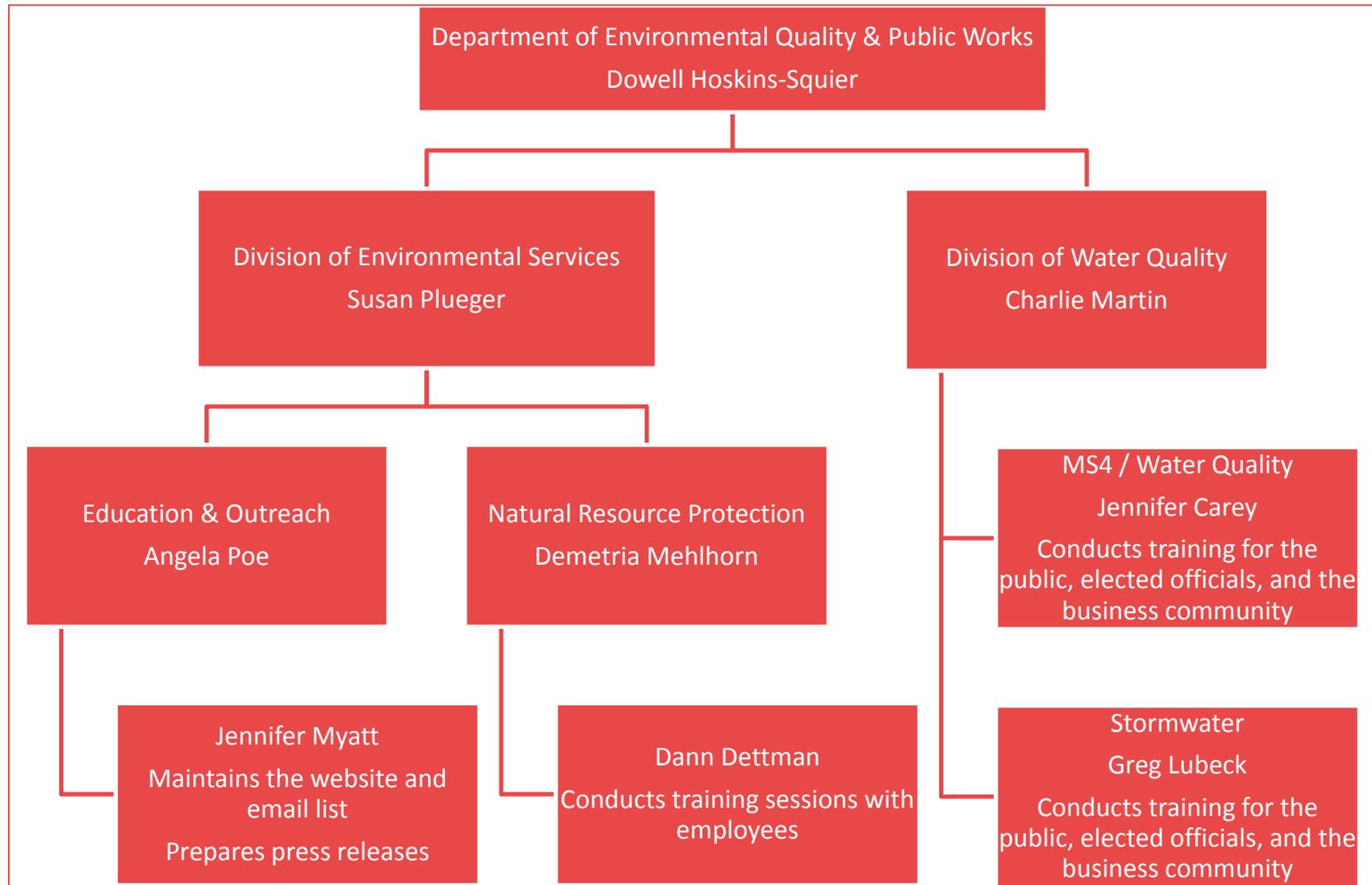
13. Provide Classroom Training – provide a summary of where, when, who, and what was covered, along with how many students participated.
14. Provide Community Training Opportunities - provide a summary of where, when, who, and what was covered, along with how many people participated.
15. Conduct a Community Survey to Assess Public Knowledge and Attitudes About Stormwater and Water Quality – provide a copy of the survey questions, a link to the survey, and copies of how it was promoted for Years 3 and 5.
16. Conduct a Community Survey to Assess Public Knowledge and Attitudes About Stormwater and Water Quality – provide a copy of the responses (in aggregate) and the analysis and evaluation of the responses for both years in a report or technical memorandum format for Year 5.
17. Conduct Employee Training – provide confirmation that Greenworks Guides are covered during New Employee Orientation.
18. Conduct Training for Elected Officials and the Development Community – provide a copy of the Environmental Quality & Public Works Committee meeting packet or meeting minutes with a copy of the PowerPoint slides attached.
19. Conduct Training for Elected Officials and the Development Community – provide an agenda or sign-in sheet from the Planning Commission work session and a copy of the PowerPoint slides.

## **Public Education and Outreach Additional**

Although not a permit requirement, LFUCG intends to complete the following during this permit cycle:

LFUCG plans to complete a Communication Strategic Plan by the end of Year 2 and review, evaluate, and update, as necessary, by the end of Year 4.

## Public Education and Outreach – Organization Chart by Department and Division



## Public Involvement and Participation

PI 1 Central Reporting of Pollution or Hazards

PI 2 Support Civic Groups Involved in Watershed Management  
and Stormwater Pollution Prevention

PI 3 Facilitate Volunteer Service Opportunities for the Public

PI 4 Storm Drain Marking Program

PI 5 Public Notification of Major Program Changes

PI 6 Stakeholder Advisory Committee

PI A Additional

## Public Involvement and Participation (PI)

**KPDES Permit Narrative from Part II:** “Public Involvement/Participation - At a minimum, comply with state and local public notice requirements when implementing a public involvement/participation program. Activities may include representation on local stormwater management work groups, public hearings, education volunteers, assisting with program coordination and monitoring efforts, per applicable state and federal requirements.

“Compliance with these terms is achieved by implementing the program elements, as shown in Table 2 (**Public Involvement and Participation**) in Section E of this Part, except where inconsistent with other provisions of this permit.”

**KPDES Permit Table 2 Objective:** “The objective is to increase public involvement in the management of the stormwater pollution prevention programs of Fayette County associated with discharges to the municipal separate storm sewer system (MS4).”

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Program Element Effectiveness:** The success of the **Public Involvement and Participation** program elements will be determined by comparing actual achievements to the measurable goals for each program element listed in this section.

## **PI 1 Central Reporting of Pollution or Hazards**

### **Program Elements from KPDES Permit Table 2 Section PI 1:**

“The permittee shall continue operation of LexCall, or equivalent system, (via phone and webpage) to include the following: reporting of spills, reporting of illegal dumping/activity, reporting of complaints, and signing up for volunteer activities.

“The permittee shall evaluate the LexCall, or equivalent system, records to make sure that all water quality and stormwater related calls are properly handled, including tracked and reported. The permittee will ensure that calls are being forwarded to the appropriate Divisions for follow-up and resolution; this will involve coordination between LexCall staff and Department of Environmental Quality and Public Works staff.

“The permittee will train the LexCall, or equivalent system, staff during regular staff training on the importance of water quality issues and the appropriate codes for stormwater-related issues will be stressed.

“The permittee shall publish and maintain the LexCall system or an effective equivalent and a city web address on stormwater educational materials.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 2 Section PI 1. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PI 1 – Central Reporting of Pollution or Hazards  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Continue Operation of LexCall (or Equivalent)	MG-PI-01: Continue operation of LexCall, or equivalent system, via phone and webpage to include the following: reporting of spills, reporting of illegal dumping/activity, reporting of complaints, and signing up for volunteer activities.	X	X	X	X	X	DGC
Evaluate Stormwater and Water Quality Related LexCall Records and Codes	MG-PI-02: Annually evaluate the LexCall, or equivalent, system's records and codes to make sure that all stormwater and water quality related calls are properly forwarded to the appropriate Divisions for follow-up and resolution, including being tracked and reported. Discuss proposed changes with LexCall staff.	X	X	X	X	X	DWQ
Provide LexCall Staff Training	MG-PI-03: Provide annual training to the LexCall, or equivalent system, staff during regular staff training on the importance of water quality issues, stressing the appropriate codes for stormwater and water quality related issues.	X	X	X	X	X	DWQ
Publish LexCall's Number and City Web Address on Stormwater Educational Materials	MG-PI-04: Publish the LexCall phone number(s) and city web address on all stormwater educational materials.	X	X	X	X	X	DES

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Continue Operation of LexCall (or Equivalent) – provide a link to the webpage for LexCall.
2. Evaluate Stormwater and Water Quality Related Records and Codes – provide a list of codes relevant to the stormwater program and indicate any changes suggested and/or made.
3. Provide LexCall Staff Training – provide a copy of the sign in sheet(s).
4. Publish LexCall's Number and City Web Address on Stormwater Educational Materials – provide examples documenting the inclusion of LexCall's number and the city's web address on printed or on-line materials.

## **PI 2 Support Civic Groups Involved in Watershed Management and Stormwater Pollution Prevention**

### **Program Elements from KPDES Permit Table 2 Section PI 2:**

“The permittee shall participate in local community groups and local organizations whose goals are water resource protection, watershed management, or stormwater pollution prevention.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 2 Section PI 2. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PI 2 – Support Civic Groups Involved in Watershed Management and Stormwater Pollution**

**Prevention**

**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Participate in Stormwater and Water Quality Related Groups or Organizations	MG-PI-05: Participate in or support at least 2 civic groups per year that focus on water quality, water resource protection, watershed management, or stormwater pollution prevention.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

5. Participate in Stormwater and Water Quality Related Groups or Organizations – provide a summary of the groups engaged with and staff's role.

## **PI 3 Facilitate Volunteer Service Opportunities for the Public**

### **Program Elements from KPDES Permit Table 2 Section PI 3:**

“The permittee shall facilitate and/or promote opportunities for the public to volunteer time and resources in community activities to reduce and prevent stormwater pollution. Activities may include clean-ups, volunteer sampling and planting of native vegetation and will be promoted via press releases, local cable access Channel 3, social media and/or website.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 2 Section PI 3. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.



**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

6. Facilitate and/or Promote Volunteer Opportunities Related to Improving Stormwater and Water Quality – provide a list of volunteer opportunities and the dates they were held.

## **PI 4 Storm Drain Marking Program**

### **Program Elements from KPDES Permit Table 2 Section PI 4:**

“The permittee shall continue a storm drain marking program to label storm drain inlet structures.

“The permittee shall review and update, if needed, the storm drain marking protocol for medallion placement and/or stenciling that can be provided to volunteers, including the process for prioritizing inlet structures to maximize pollutant reduction. The protocol shall be posted on the city’s website.

The permittee shall maintain a map showing locations of all currently marked drains and post on the website.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 2 Section PI 4. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PI 4 – Storm Drain Marking Program**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Conduct Storm Drain Marking	MG-PI-07: Mark 100 inlet structures per year. Volunteers or staff may conduct the marking of inlet structures.	X	X	X	X	X	DES
Review and Update, If Needed, Protocols for Storm Drain Marking	MG-PI-08: During Year 1, review and update, if needed, the storm drain marking protocol for medallion placement and/or stenciling that can be provided to volunteers, including the process for prioritizing inlet structures to maximize pollutant reduction. Post the protocol on the city's website.	X					DES
Maintain Map of Marked Drains	MG-PI-09: Annually update the map (GIS coverage/layer) showing the locations of all currently known marked inlets and post the map(s) on the city's website.	X	X	X	X	X	DES

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

7. Conduct Storm Drain Marking – provide a numbered list of addresses and/or asset IDs of storm inlet locations marked.
8. Review and Update, If Needed, Protocols for Storm Drain Marking – provide a link to the protocols if the review necessitates an update to it.
9. Maintain Map of Marked Drains – provide a link to the updated maps.

## **PI 5 Public Notification of Major Program Changes**

### **Program Elements from KPDES Permit Table 2 Section PI 5:**

“The permittee shall maintain a process to notify the public and affected stakeholders of any proposed major program changes that will significantly impact stormwater runoff quality, negatively or positively. The public shall be given the opportunity to informally comment on proposed changes and these comments will be summarized and made available on the website.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 2 Section PI 5. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.



**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

10. Review and Update, If Needed, Process for Notifying the Public of Major Program Changes – provide a copy of the process if the review necessitates an update to it.
11. Maintain Process for Notifying the Public of Major Program Changes – provide documentation of notifications and summaries of any comments received if any proposed program changes arise.

## **PI 6 Stakeholder Advisory Committee**

### **Program Elements from KPDES Permit Table 2 Section PI 6:**

“The permittee shall continue to support its Stormwater Stakeholder Advisory Committee.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 2 Section PI 6. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PI 6 – Stakeholder Advisory Committee  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Continue Stormwater Stakeholder Advisory Committee	MG-PI-12: Continue to support LFUCG's Stormwater Stakeholder Advisory Committee by organizing and holding 2 meetings per year.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

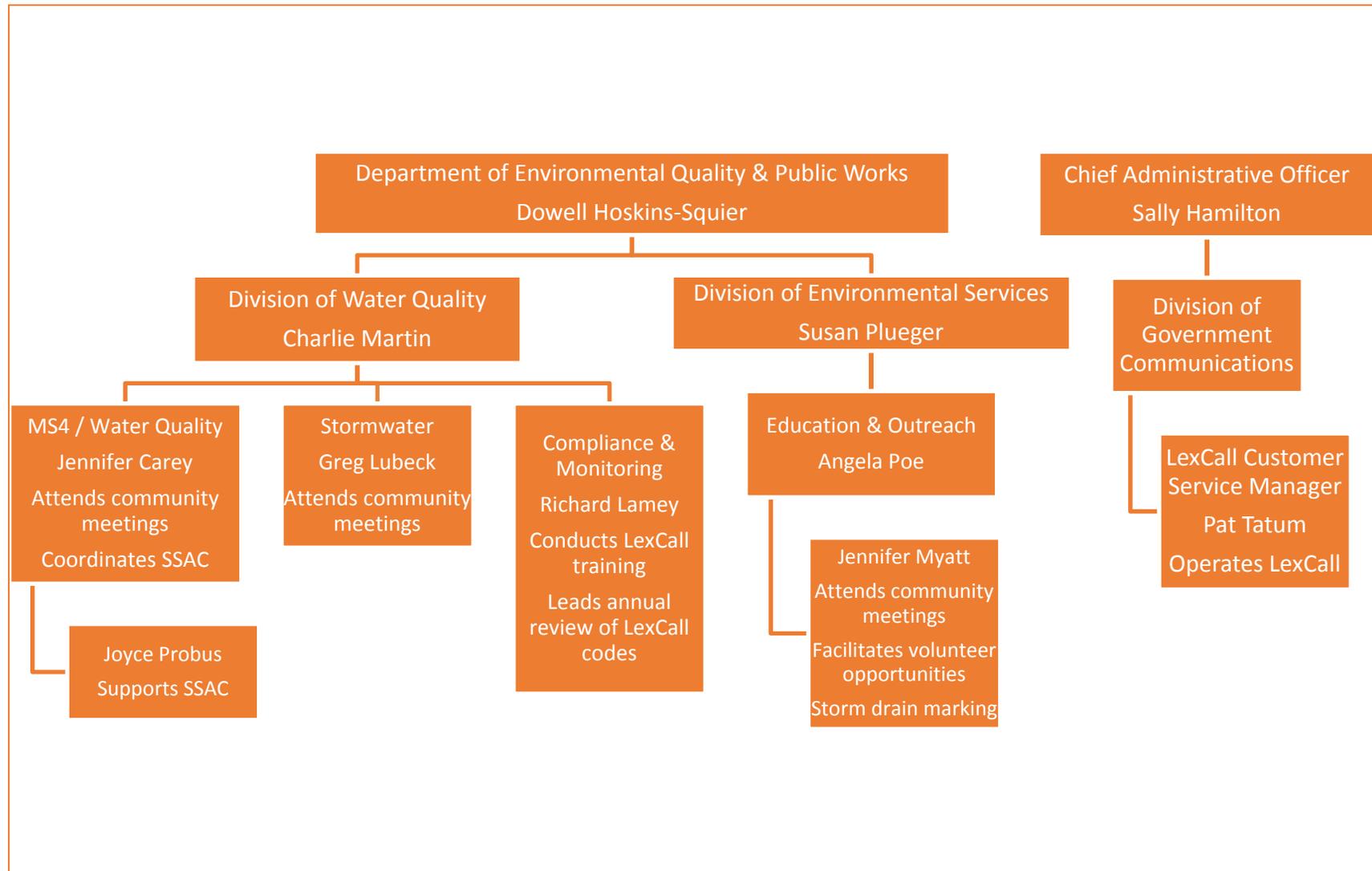
12. Continue Stormwater Stakeholder Advisory Committee – provide a link to the SSAC webpage, copies of agendas, and copies of meeting minutes.

## **Public Involvement and Participation Additional**

Although not a permit requirement, LFUCG intends to complete the following during this permit cycle:

LFUCG is developing a partnership program with businesses in Fayette County that wish to be environmental stewards via their business practices. There will be a stormwater and water quality component to this program; however, it will also include waste management, recycling, conservation, sustainability, and other accountability measures. This program should be developed and launched by the end of Year 2, with additional promotional efforts leading to increased business participation in the program in Years 3-5.

## Public Involvement and Participation – Organization Chart by Department and Division



# Illicit Discharge Detection and Elimination

IDDE 1 Legal Prohibition/Control Authority

IDDE 2 Inventory and Inspection

IDDE 3 Monitoring

IDDE 4 Investigation

IDDE 5 Evaluation

IDDE 6 Enforcement of Controls

IDDE 7 Response to Spills

IDDE 8 Education

IDDE 9 Training

IDDE 10 Controls for Sanitary Sewer

IDDE A Additional

## Illicit Discharge Detection and Elimination (IDDE)

### KPDES Permit Narrative from Part II:

#### “Illicit Discharge Detection and Elimination

- a. Update, as needed, implement, and enforce a program to detect and eliminate illicit discharges, per applicable state and federal requirements;
- b. Update, as needed, the storm sewer map, showing the location of known MS4 outfalls 18” inside diameter or larger (equivalent to a cross-sectional area of 1.77 square feet or larger), as defined herein, with drainage areas delineated, and the names and locations of waters of the Commonwealth that receive discharge from those outfalls;
- c. To the extent allowable under state and local law, effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into the separate storm sewer system, define allowable non-stormwater discharges, and implement appropriate enforcement procedures and actions;
- d. Update, as needed, and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the MS4 systems;
- e. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste; and
- f. If in the course of implementing the SWQMP it is demonstrated that at any location sanitary sewer lines exfiltrate and such exfiltration migrates to the Municipal Separate Storm Sewer System, the permittee shall evaluate and implement a response plan to correct the sanitary sewer exfiltration problem.

Compliance with these terms is achieved by implementing the program elements, as shown in Table 3 (Illicit Discharge Detection and Elimination Requirements) in Section E of this Part, except where inconsistent with other provisions of this permit.”

**KPDES Permit Table 3 Objective:** “The objective is to detect, control, prevent, reduce, and eliminate illicit connections and improper disposal of wastes into the municipal separate storm sewer system (MS4) by determining the types and sources of illicit discharges entering the system by establishing legal, technical, and educational means needed to prevent these discharges into the waters of the Commonwealth within the scope of this permit. This program applies only to the Urban Service Area and the "Urban Areas" for Implementation of LFUCG's Stormwater Quality Management Program that is notated in the map attached to the permit.”

### **KPDES Permit Narrative from Part III:**

#### **“OUTFALL MAPPING**

Per CFR 122.26 (d) (2) (iii) (C), (incorporated by reference in Kentucky Regulations at 401 KAR 5:060, Section 8), the permittee shall provide the location of all known major outfalls. The outfalls shall be identified in the annual report for Year 3 of the permit; with updates describing any additionally identified major outfall in each subsequent annual report. For the purpose of this permit a “major outfall” is defined as follows:

1. A pipe (or closed conveyance) system with a cross-sectional area equal to or greater than 7.07 square feet (e.g., a single circular pipe system, with an inside diameter of 36 inches or greater); if applicable.
2. A single conveyance other than a pipe, such as an open channel ditch, which is associated with a drainage area of more than 50 acres; if applicable.
3. A pipe (or closed conveyance) system draining “industrial-zoned land use,” with a cross-sectional area equal to or greater than 0.79 square feet (e.g., a single circular pipe system, an inside diameter of 12 inches or greater); or if applicable.
4. A single conveyance other than a pipe, such as an open channel ditch, which is associated with an “industrial-zoned land use” drainage area of more than 2 acres; if applicable.

The permittee shall also delineate the drainage areas of the separate storm sewer system and submit a map to the Division of Water in the Annual Report for Permit Year 3.”

#### **“ANNUAL REPORTING REQUIREMENTS**

The permittee shall prepare an annual system-wide report to be submitted no later than July 15<sup>th</sup> of the year following the period covered by the report. The annual report shall cover the period beginning on January 1 through December 31, 2015, and annually thereafter. The annual report shall include but not be limited to:

...5. Summary of inspections and enforcement actions for regulatory programs.”

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Program Element Effectiveness:** The success of the Illicit Discharge Detection and Elimination program elements will be determined by comparing actual achievements to the measurable goals for each program element listed in this section.

## **IDDE 1 Legal Prohibition/Control Authority**

### **Program Elements from KPDES Permit Table 3 Section IDDE 1:**

“The permittee shall effectively prohibit, through ordinance, operational procedures, or other regulatory means, non-exempt, non-stormwater discharges into the MS4.

“The permittee shall control through ordinance, operational procedures, or other regulatory means the discharge to the MS4 of spills, dumping or disposal of materials other than stormwater.

“The permittee shall review and evaluate existing ordinances and propose updates to the Urban County Council as needed.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 1. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IDDE 1 – Legal Prohibition/Control Authority  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Prohibit Illicit Discharges	MG-IDDE-01: Ensure ordinances prohibiting illicit discharges remain in force.	X	X	X	X	X	DWQ
Control Improper Disposals	MG-IDDE-02: Ensure ordinances controlling spills, dumping, or disposal of materials other than stormwater remain in force.	X	X	X	X	X	DWQ
Review of Existing Ordinances	MG-IDDE-03: Review and evaluate existing ordinances regarding illicit discharges, spills, dumping, disposal of materials, and illegal connections to the storm sewer system; and propose updates, if needed, to the Urban County Council once during the permit cycle.			X			DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Prohibit Illicit Discharges – provide a link to the current ordinance in force (Chapter 16, Article X, Division 4).
2. Control Improper Disposals – provide a link to the current ordinance in force (Chapter 16, Article X, Division 4).
3. Review of Existing Ordinances – provide documentation of ordinance review and recommended changes, if any.

## **IDDE 2 Inventory and Inspection**

### **Program Elements from KPDES Permit Table 3 Section IDDE 2:**

“The permittee shall review and update the current Major Outfall mapping and inventory, showing known major outfalls and drainage areas, and submit the map to the Division of Water with the MS4 Annual Report for Permit Year 3, and then update on an annual basis.

“The permittee shall maintain procedures for adding new Major Outfalls or for updating the inventory.

“The permittee shall review and update, if needed, the procedures for adding new Major Outfalls or for updating the inventory once per permit cycle.”

“Based on the outcomes from the Visual Stream Assessments conducted in 2009-2014, the permittee shall propose a modified approach and procedures for assessing the drainage systems identified as having the highest priority during Year 1 of the permit and implement the modified approach to inspect the drainage system areas of highest concern during permit Years 2–5.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 2. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IDDE 2 – Inventory and Inspection  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Updating the Major Outfall Mapping and Inventory	MG-IDDE-04: Review and update, if needed, the procedures for updating the Major Outfall mapping and inventory, including adding new Major Outfalls, once per permit cycle.	X					DWQ
	MG-IDDE-05: Implement the procedures for updating the Major Outfall mapping and inventory.		X	X	X	X	CS
Infrastructure Inventory	MG-IDDE-06: Review and update the storm sewer mapping completed during the prior permit cycle to include drainage areas for outfalls with an 18" inside diameter or larger, and submit the map(s) with the Permit Year 3 Annual Report.			X			CS
	MG-IDDE-07: Review and update the current Major Outfall mapping and inventory, showing known major outfalls and drainage areas, and submit the map(s) with the Permit Year 3 Annual Report.			X			CS
	MG-IDDE-08: Review and update the Year 3 Major Outfall mapping and inventory on an annual basis.				X	X	CS
Assess Drainage Systems	MG-IDDE-09: Propose a modified approach and procedures for assessing the drainage systems identified as having the highest priority (based on the 2009-2014 Visual Stream Assessments) during Year 1. Include a proposed inspection schedule.	X					DWQ
	MG-IDDE-10: Implement the proposed modified approach and procedures during Years 2-5.		X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

4. Updating the Major Outfall Mapping and Inventory (procedures) – provide documentation of procedure review and recommended changes, if any.
5. Updating the Major Outfall Mapping and Inventory (implementation) – provide maps and a copy of the major outfall inventory.
6. Infrastructure Inventory (storm sewer mapping) – provide maps showing drainage areas and Waters of the Commonwealth.
7. Infrastructure Inventory (Major Outfall mapping and inventory) – provide maps showing drainage areas and Waters of the Commonwealth.
8. Infrastructure Inventory (Major Outfall annual review and update) – provide maps showing drainage areas and Waters of the Commonwealth and a copy of the Major Outfall inventory.
9. Assess Drainage Systems (modified approach and procedures) – provide a copy of the approach, procedures, and schedule.
10. Assess Drainage Systems (implementation) – provide findings from assessments.

## **IDDE 3 Monitoring**

### **Program Elements from KPDES Permit Table 3 Section IDDE 3:**

“The permittee shall conduct dry weather screening at no less than 75 locations every year, which may include major outfalls and other screening points selected by LFUCG.

“The permittee shall conduct dry weather screening at 20% of the identified major outfalls once per year and achieve 100% screening of known major outfalls by the end of Year 5.

“The permittee shall continue to track IDDE program investigations in Accela (or equivalent), and shall continue to compile all sampling field data and laboratory results.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 3. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IDDE 3 – Monitoring  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Outfall Screening	MG-IDDE-11: Conduct dry weather screening at no less than 75 locations every year, which may include Major Outfalls and other screening points selected by LFUCG.	X	X	X	X	X	DWQ
Major Outfall Dry Weather Screening	MG-IDDE-12: Conduct dry weather screening at 20% of the identified Major Outfalls once per year and achieve 100% screening of known Major Outfalls by the end of Year 5.	X	X	X	X	X	DWQ
Database	MG-IDDE-13: Track Dry Weather Screening and IDDE program investigations in Accela (or equivalent) and continue compiling all sampling field data and laboratory results.	X	X	X	X	X	DWQ

**Performance Standards from Consent Decree**

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Conduct Dry Weather Screening	PS-IDDE-7: Commencing in calendar year 2008, conduct dry weather screening at no less than 125 locations every year, which may include major outfalls and other screening points selected by LFUCG.	*	*	*	*	*	DWQ
Conduct Dry Weather Screening	PS-IDDE-8: Commencing in calendar year 2008, conduct dry weather screening of identified major outfalls once every two years.		*		*		DWQ
Conduct Dry Weather Screening	PS-IN-14: Commencing in calendar year 2009, conduct dry weather screening at 90% of Large Industrial Outfalls of Industrial Facilities on the Inventory once every two years.		*		*		DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.

Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

11. Outfall Screening / PS-IDDE-7 – provide the number screened.
12. Major Outfall Dry Weather Screening / PS-IDDE-8 – provide the percentage of Major Outfalls screened.
13. Database – provide a summary of dry weather screening results.

## **IDDE 4 Investigation**

### **Program Elements from KPDES Permit Table 3 Section IDDE 4:**

“The permittee shall review and update, as needed, the existing criteria to evaluate, for internal purposes, whether sampling results from screening activities, monitoring data, reported incidents, or other information indicates the potential existence of an illicit discharge. This shall include a review and update, as needed, of procedures for conducting inspections and investigations.

“The permittee shall conduct an investigation when the criteria for initiating an investigation are met.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 4. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IDDE 4 – Investigation  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Evaluate Criteria to Trigger Investigations	MG-IDDE-14: Review and update, as needed, the existing criteria to evaluate, for internal purposes, whether sampling results from screening activities, monitoring data, reported incidents, or other information indicates the potential existence of an illicit discharge, during Year 1.	X					DWQ
Evaluate Procedures for Conducting Investigations	MG-IDDE-15: Review and update, as needed, of procedures for conducting inspections and investigations of potential illicit discharges, during Year 1.	X					DWQ
Conduct Investigations	MG-IDDE-16: Conduct investigations according to procedures when trigger criteria have been met.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

14. Evaluate Criteria to Trigger Investigations – provide documentation of criteria review and recommended changes, if any.
15. Evaluate Procedures for Conducting Investigations – provide documentation of procedure review and recommended changes, if any.
16. Conduct Investigations – provide a summary of illicit discharge investigations.

## **IDDE 5 Evaluation**

### **Program Elements from KPDES Permit Table 3 Section IDDE 5:**

“The permittee shall implement its protocol for elimination of confirmed illicit connections.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 5. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IDDE 5 – Evaluation  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Protocol for Eliminating Illicit Connections	MG-IDDE-17: During Year 1, review and update, if needed, the protocol for eliminating confirmed illicit connections.	X					DWQ
Eliminate Illicit Connections	MG-IDDE-18: Implement protocol for eliminating confirmed illicit connections.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

17. Protocol for Eliminating Illicit Discharges – provide documentation of protocol review and recommended changes, if any.
18. Eliminate Illicit Connections – provide documentation of illicit connection elimination.

## **IDDE 6 Enforcement of Controls**

### **Program Elements from KPDES Permit Table 3 Section IDDE 6:**

“The permittee shall require compliance with conditions in ordinances, permits, contracts and orders that prevent illicit discharges, spills, dumping and disposal of materials other than stormwater to the MS4. The permittee shall maintain enforcement programs, procedures, and/or policies to respond to the occurrence or detection of an illicit connection or improper waste disposal in accordance with the ordinances, operational procedures, or other regulatory means that have been established for the prohibition of such incidents.

“The permittee shall review and update, as needed, the enforcement procedures and recommend changes where appropriate.

“The permittee shall track and report enforcement activities related to the IDDE program.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 6. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IDDE 6 – Enforcement of Controls**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Compliance and Enforcement Procedures	MG-IDDE-19: During Year 1, review and update, as needed, the compliance and enforcement procedures and recommend changes where appropriate.	X					DWQ
Compliance and Enforcement	MG-IDDE-20: Require responsible parties to comply with conditions in ordinances, permits, contracts, and orders that prevent illicit discharges, spills, dumping, and disposal of materials other than stormwater to the MS4.	X	X	X	X	X	DWQ
	MG-IDDE-21: Implement enforcement programs, procedures, and/or policies to respond to the confirmation of an illegal connection or improper waste disposal in accordance with the ordinances, operational procedures, or other regulatory means that have been established for the prohibition of such incidents.	X	X	X	X	X	DES
Documentation	MG-IDDE-22: Track and report enforcement activities related to the IDDE program.	X	X	X	X	X	DES

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

19. Compliance and Enforcement Procedures – provide documentation of procedures review and recommended changes, if any.
20. Compliance and Enforcement (require compliance) – provide information on compliance activities completed following illicit discharge investigations.
21. Compliance and Enforcement (enforcement) – provide information on enforcement action taken following illicit discharge investigations or illegal connection determinations.
22. Documentation – provide report on enforcement activities related to the IDDE program.

## **IDDE 7 Response to Spills**

### **Program Elements from KPDES Permit Table 3 Section IDDE 7:**

“The permittee shall review and update, as needed, procedures for spill response, containment, and reporting of spills that could potentially come in contact with the MS4.

“The permittee shall implement the spill response and containment program as it pertains to spills that could potentially come in contact with the MS4.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 7. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

## SWQMP Table IDDE 7 – Response to Spills

### Measurable Goals

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Procedures Regarding Spills	MG-IDDE-23: During Year 1, review and update, as needed, procedures for spill response, containment, and reporting of spills that could potentially come in contact with the MS4.	X					DWQ
Implement Procedures	MG-IDDE-24: Implement the spill response and containment program as it pertains to spills that could potentially come in contact with the MS4.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

- 23. Procedures Regarding Spills – provide documentation of procedures review and recommended changes, if any.
- 24. Implement Procedures – provide a summary of spill responses for spills with a potential to come in contact with the MS4.

## **IDDE 8 Education**

### **Program Elements from KPDES Permit Table 3 Section IDDE 8:**

“The permittee shall promote, publicize, and facilitate public reporting of the presence of illicit discharges and improper disposals and the associated water quality impacts. The permittee shall provide educational materials, public service announcements, and/or multimedia presentations regarding illicit connections and improper waste disposal into the MS4.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 8. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IDDE 8 – Education**

**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Reporting Illicit Discharges	MG-IDDE-25: Promote, publicize, and facilitate public reporting of illicit discharges and improper disposals which could impact water quality.	X	X	X	X	X	DES
Explain Illicit Discharges and Illegal Connections	MG-IDDE-26: Provide educational materials, public service announcements, and/or multimedia presentations regarding illicit connections and improper waste disposal into the MS4 and waterways.	X	X	X	X	X	DES

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

25. Reporting Illicit Discharges – provide the number of potential illicit discharges initiated by contact with LexCall.
26. Explain Illicit Discharges and Illegal Connections – provide copies of or links to educational materials pertaining to illicit connections and/or improper waste disposal to the MS4 and Waters of the Commonwealth.

## **IDDE 9 Training**

### **Program Elements from KPDES Permit Table 3 Section IDDE 9:**

“The permittee shall conduct, facilitate, and participate in training activities to be conducted annually for applicable LFUCG employees.”

“The permittee shall conduct audience surveys to measure attendance and evaluate the extent to which the target audience is being reached and ways to expand the training topics.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 9. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IDDE 9 – Training  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Employee Training	MG-IDDE-27: Conduct, facilitate, and participate in training activities to be conducted annually for applicable LFUCG employees.	X	X	X	X	X	DWQ
Training Evaluation	MG-IDDE-28: Conduct audience surveys in conjunction with the annual training for employees to measure attendance and evaluate the extent to which the employees are being reached and ways to expand the training topics	X	X	X	X	X	DWQ

**Performance Standards from Consent Decree**

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Conduct Employee Training	PS-IDDE-23: Commencing in calendar year 2008, conduct one training session regarding illicit discharge detection and elimination per year for employees carrying out LFUCG's IDDE program.	*	*	*	*	*	DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.

Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

27. Employee Training / PS-IDDE-23 – provide a copy of the agenda, sign in sheets, and copies of any PowerPoint slides or handouts.
28. Training Evaluation – provide a summary of completed employee training evaluation forms.

## **IDDE 10 Controls for Sanitary Sewer**

### **Program Elements from KPDES Permit Table 3 Section IDDE 10:**

“The permittee shall maintain programs, procedures, and/or policies to detect, investigate and eliminate discharges of sanitary sewage from the municipal sanitary sewer system into the MS4.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 3 Section IDDE 10. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IDDE 10 – Controls for Sanitary Sewer  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Sanitary Sewer Exfiltration	MG-IDDE-29: Maintain programs, procedures, and/or policies to detect, investigate, and eliminate discharges of sanitary sewage from the municipal sanitary sewer system into the MS4.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

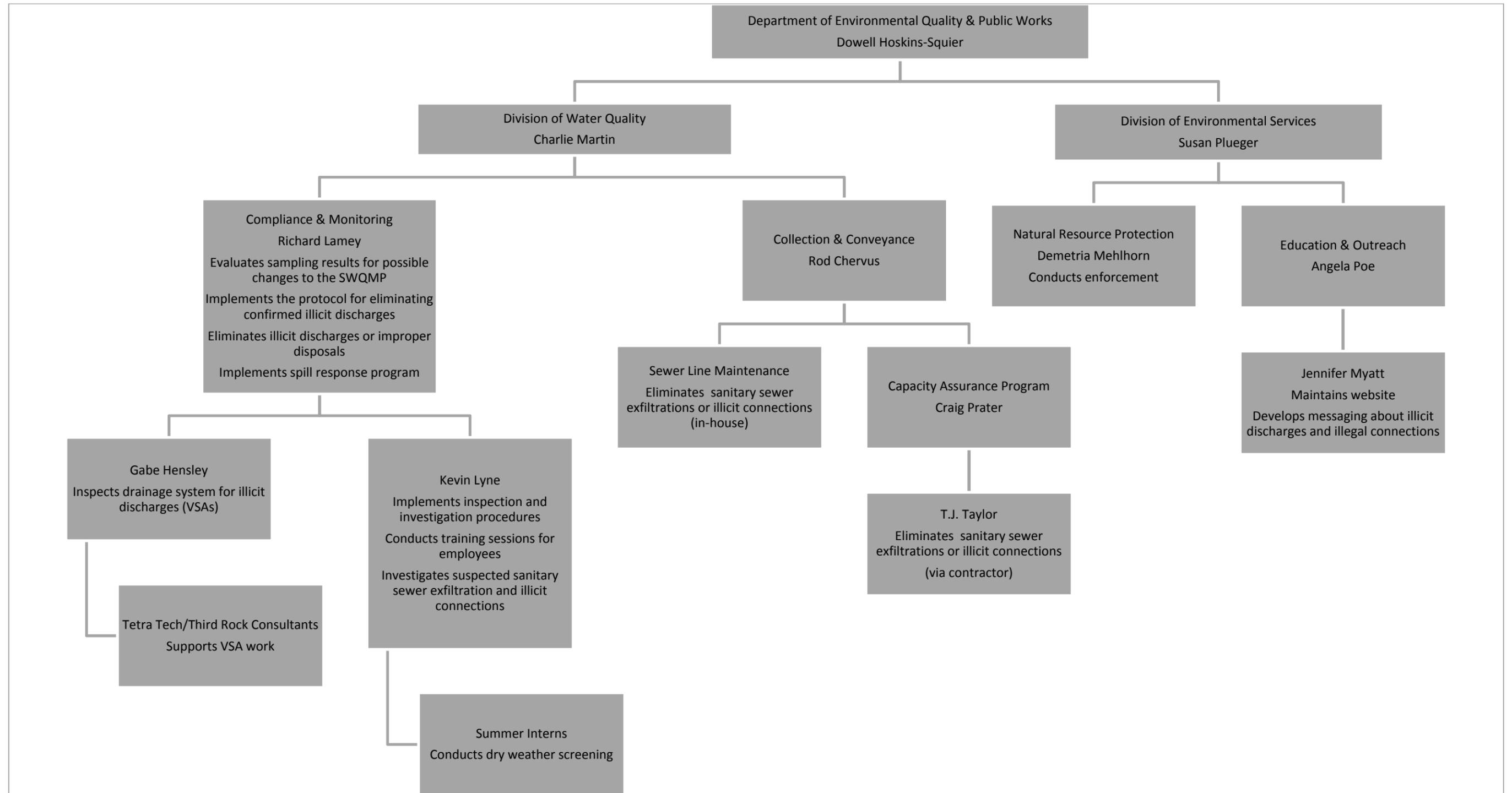
29. Sanitary Sewer Exfiltration – provide documentation of any sanitary sewer exfiltration that was eliminated.

## **Illicit Discharge Detection and Elimination Additional**

Although not a permit requirement, LFUCG intends to complete the following during this permit cycle:

Develop a Chemical Fingerprint Library during Year 2 to be used for dry weather screening analysis and illicit discharge investigations.

# Illicit Discharge Detection and Elimination – Organization Chart by Department and Division



# Construction Site Stormwater Runoff Control

- CS 1 Legal Prohibition/Control Authority
- CS 2 Water Quality Considerations in Site Planning
- CS 3 Non-structural & Structural BMPs
- CS 4 Site Inspections and Enforcement of Controls
- CS 5 Education
- CS 6 Training
- CS A Additional

## Construction Site Stormwater Runoff Control (CS)

### KPDES Permit Narrative from Part II:

#### “Construction Site Stormwater Runoff Control

- a. Update, implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from Active Construction Sites.
- b. The program must include the implementation of, at a minimum:
  - (i) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;
  - (ii) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices (BMPs);
  - (iii) Procedures for site plan review which incorporate consideration of potential water quality impacts;
  - (iv) Procedure for receipt and consideration of information submitted by the public; and
  - (v) Procedures for site inspection and enforcement.

Compliance with these terms is achieved by implementing the program elements, as shown in Table 4 (Construction Site Stormwater Runoff Control Requirements) in Section E of this Part, except where inconsistent with other provisions of this permit.”

**KPDES Permit Table 4 Objective:** “The objective is to develop, implement, and enforce programs to minimize pollutants in stormwater runoff from construction sites to the municipal separate storm sewer system (MS4).”

### KPDES Permit Narrative from Part III:

#### “ANNUAL REPORTING REQUIREMENTS

The permittee shall prepare an annual system-wide report to be submitted no later than July 15<sup>th</sup> of the year following the period covered by the report. The annual report shall cover the period beginning on January 1 through December 31, 2015, and annually thereafter. The annual report shall include but not be limited to:

...5. Summary of inspections and enforcement actions for regulatory programs.”

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Program Element Effectiveness:** The success of the **Construction Site Stormwater Runoff Control** program elements will be determined by comparing actual achievements to the measurable goals for each program element listed in this section.

## **CS 1 Legal Prohibition/Control Authority**

### **Program Elements from KPDES Permit Table 4 Section CS 1:**

“The permittee shall effectively establish by ordinance, regulation, permit or series of contracts the authority to control pollutants in discharges of stormwater runoff from construction sites addressed in 40 CFR 122.26(d)(2)(A) to the MS4. [Furthermore, refer to Table 3. Illicit Discharge Detection and Elimination for the control authority and prohibition of non-exempt, non-stormwater discharges; spills; dumping; or disposal of materials other than stormwater into the MS4.]

“The permittee shall review and evaluate existing ordinances and propose updates to the Urban County Council as needed.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 4 Section CS 1. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table CS 1 – Legal Prohibition/Control Authority  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Control Pollutants	MG-CS-01: Ensure ordinances and the associated land disturbance permit (or equivalent) controlling pollutants in discharges of stormwater runoff from construction sites to the MS4 remain in force.	X	X	X	X	X	DWQ
Review of Existing Ordinances	MG-CS-02: Review and evaluate existing ordinances regarding the control of pollutants in discharges of stormwater runoff from construction sites to the storm sewer system; and propose updates, if needed, to the Urban County Council once during the permit cycle.				X		DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Control Pollutants – provide a link to the current ordinance in force and a copy of the current land disturbance permit template.
2. Review of Existing Ordinances – provide documentation of ordinance review and recommended changes, if any.

## **CS 2 Water Quality Considerations in Site Planning**

### **Program Elements from KPDES Permit Table 4 Section CS 2:**

“The permittee shall review and update, as needed, the procedures for summary review of construction site erosion and sediment control plans to assess whether plans reasonably include measures that address potential water quality impacts from construction prior to authorization of land disturbance.

“The permittee shall continue implementation of the procedures for summary review of construction site erosion and sediment control plans.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 4 Section CS 2. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table CS 2 – Water Quality Considerations in Site Planning**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Review Procedures	MG-CS-03: Review and update, as needed, the procedures for summary review of construction site erosion and sediment control plans to assess whether plans reasonably include measures that address potential water quality impacts from construction prior to authorization of land disturbance once per permit cycle.		X				DOE
Implement Procedures	MG-CS-04: Continue implementation of the procedures for summary review of construction site erosion and sediment control plans.	X	X	X	X	X	DOE

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

3. Review Procedures for Summary Review of CS ESC Plans – provide documentation of procedures review and recommended changes, if any.
4. Implement Procedures – provide documentation showing that DOE's and DWQ's reviewers are using the current checklists to facilitate their review of ESC Plans.

## **CS 3 Non-structural & Structural BMPs**

### **Program Elements from KPDES Permit Table 4 Section CS 3:**

“Conduct review of design criteria for erosion and sediment controls in the Stormwater Manual at least once within the permit cycle.

“The permittee shall review and update, as needed, the example BMP plans and checklists for use by construction site permit holders.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 4 Section CS 3. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table CS 3 – Non-structural & Structural BMPs  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Conduct Review of Design Criteria for Non-structural and Structural Controls	MG-CS-05: Conduct a review of the design criteria in the Stormwater Manual for erosion and sediment controls at least once within the permit cycle.		X				DOE
SWPPP Templates	MG-CS-06: Review and update, as needed, the example BMP plans and checklists for use by construction site permit holders once per permit cycle.		X				DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

5. Conduct Review of Design Criteria for Non-structural and Structural Controls – provide documentation of proposed updates to Chapter 11 of the Stormwater Manual.
6. SWPPP Templates – provide documentation of SWPPP template review and recommended changes, if any.

## **CS 4 Site Inspections and Enforcement of Controls**

### **Program Elements from KPDES Permit Table 4 Section CS 4:**

“The permittee shall review and update, as needed, construction site inspection and enforcement procedures and the current inspection checklist.

“The permittee shall conduct monthly inspections of at least seventy (70%) percent of active construction sites with reasonable potential to discharge pollutants to the MS4 by following the construction site inspection and enforcement procedures and the current inspection checklist.

“The permittee shall review and update, as needed, protocols for targeting active construction sites for additional inspections based on, but not limited to, nature of construction site, complaints, proximity to water bodies, the uses of the receiving water body, topography, characteristics of soils on site, types of chemicals and processes being used during construction.

“The permittee shall conduct twice monthly inspections of at least seventy (70%) percent of the targeted active construction sites.

“The permittee shall conduct inspections until site has stabilized.

“The permittee shall continue to track active construction sites and inspections in Accela (or equivalent), and shall continue to track and document enforcement actions.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 4 Section CS 4. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table CS 4 – Site Inspections and Enforcement of Controls**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Evaluate Procedures and Checklists for Conducting Inspections	MG-CS-07: Review and update, as needed, construction site inspection and enforcement procedures and the current inspection checklist once per permit cycle.	X					DWQ
Conduct Inspections	MG-CS-08: Conduct monthly inspections of at least seventy (70%) percent of active construction sites with reasonable potential to discharge pollutants to the MS4 by following the construction site inspection and enforcement procedures and the current inspection checklist.	X	X	X	X	X	DWQ
Protocol to Designate Targeted Sites	MG-CS-09: Review and update, as needed, protocols for targeting active construction sites for additional inspections based on, but not limited to, nature of construction site, complaints, proximity to water bodies, the uses of the receiving water body, topography, characteristics of soils on site, types of chemicals and processes being used during construction once per permit cycle.					X	DWQ
Conduct Targeted Inspections	MG-CS-10: Conduct twice monthly inspections of at least seventy (70%) percent of the targeted active construction sites.	X	X	X	X	X	DWQ
Conduct Inspections Until Stabilized	MG-CS-11: Include in the 2016 training agenda (see CS 6) for LFUCG employees that inspection of active construction sites is to continue until the site is stabilized.		X				DWQ
	MG-CS-12: Update Accela (or equivalent) by May 31, 2016, to track whether a condition assessment (i.e., monthly inspection) is the final inspection for an active construction site (i.e., asset), i.e. the site is stabilized and all ESC BMPs have been removed. This box will have to be checked in order for an asset to become inactive. A report can be built to query the number of active construction sites which are completed (inactivated) during a specified timeframe.	X					DCS
	MG-CS-13: Track this requirement starting in Permit Year 2.		X	X	X	X	DWQ
Data Tracking	MG-CS-14: Track active construction sites and inspections in Accela (or equivalent).	X	X	X	X	X	DWQ
	MG-CS-15: Track, document, and report enforcement activities related to the CS program.	X	X	X	X	X	DES

### Performance Standards from Consent Decree

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Conduct Monthly Inspections	PS-CS-6: Commencing with the first full calendar month after entry of the Consent Decree, conduct monthly inspections of at least 90% of Active Construction Sites with reasonable potential to discharge to the MS4.	*	*	*	*	*	DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.

Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

7. Evaluate Procedures and Checklists for Conducting Inspections – provide documentation of procedure and checklist review and recommended changes, if any.
8. Conduct Inspections / PS-CS-6 – provide Accela-generated monthly report.
9. Protocol to Designate Targeted Sites – provide documentation of protocol review and recommended changes, if any.
10. Conduct Targeted Inspections – provide Accela-generated monthly report.
11. Conduct Inspections Until Stabilized (training topic) – provide a copy of the agenda, sign in sheets, and copies of any PowerPoint slides or handouts.
12. Conduct Inspections Until Stabilized (Accela update) – provide a screenshot of the updated condition assessment showing the place to indicate if a site is stabilized and all ESC BMPs have been removed; provide a sample report to query for this information.
13. Conduct Inspections Until Stabilized (Accela report) – provide Accela-generated report for each calendar year. Note: Calendar Year 2016 will not capture a full twelve months.
14. Data Tracking (inventory and inspections) – provide Accela-generated monthly report.
15. Data Tracking (enforcement) – provide amended Accela-generated monthly report that includes enforcement tracking.

## **CS 5 Education**

### **Program Elements from KPDES Permit Table 4 Section CS 5:**

“The permittee shall provide educational materials, public service announcements, and/or multimedia presentations regarding stormwater pollution prevention for construction sites through the effective use of best management practices.

“The permittee shall maintain a functional stormwater website that includes information about and links to educational materials and multimedia presentations about construction site runoff control and best management practices.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 4 Section CS 5. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

## SWQMP Table CS 5 – Education

### Measurable Goals

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Using Effective BMPs on Construction Sites	MG-CS-16: Produce video segments on stormwater pollution prevention for construction sites through the effective use of BMPs for web posting (e.g., YouTube) and available on DVD, if requested. Produce and post one video segment in Year 2 and Year 4.		X		X		DWQ
	MG-CS-17: Annually track the number of video views and review posted comments.		X	X	X	X	DWQ
	MG-CS-18: Near the end of Year 5, evaluate the usefulness of the video segments for the public audience.					X	DWQ
	MG-CS-19: Develop a handout about appropriate ESC BMPs for remodeling and renovation projects for the Division of Building Inspection to attach to remodeling permits.			X			DWQ
Maintain Website	MG-CS-20: Maintain a functional stormwater website that includes information about and links to educational materials and multimedia presentations about construction site runoff control and best management practices.	X	X	X	X	X	DES

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

16. Using Effective BMPs on Constructions Sites (produce) – provide a link to the posted video.
17. Using Effective BMPs on Constructions Sites (track) – provide a count of the number of views and a summary of any posted comments.
18. Using Effective BMPs on Constructions Sites (evaluate) – provide an evaluation of the usefulness of the video segments.
19. Using Effective BMPs on Constructions Sites (handout for remodeling permits) – provide a copy of the handout.
20. Maintain Website – provide a link to the webpage(s) for the CS audience; provide the date last updated for the webpage(s) or summarize the content that was added/removed/updated.

## CS 6 Training

### **Program Elements from KPDES Permit Table 4 Section CS 6:**

“The permittee shall conduct training sessions for the construction community, including site developers, engineers, designers, and contractors' inspectors in land management and construction practices that impact water quality.

“The permittee shall conduct or provide opportunities to attend outside training sessions for employees who carry out LFUCG's construction site runoff control program and who are involved with construction site inspections and enforcement.

“The permittee shall conduct audience surveys to measure attendance and evaluate the extent to which the target audience is being reached.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 4 Section CS 6. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table CS 6 – Training  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Construction Community Training	MG-CS-21: Conduct annual training sessions for the construction community, including site developers, engineers, designers, and contractors' inspectors in land management and construction practices that impact water quality.	X	X	X	X	X	DWQ
LFUCG Employee Training	MG-CS-22: Conduct or provide opportunities to attend outside training sessions annually for employees who carry out LFUCG's construction site stormwater runoff control program and who are involved with construction site inspections and enforcement.	X	X	X	X	X	DWQ
Evaluation of Training	MG-CS-23: Conduct audience surveys to measure attendance and evaluate the extent to which the target audience is being reached.	X	X	X	X	X	DWQ

**Performance Standards from Consent Decree**

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Conduct Employee Training	PS-CS-13: Conduct one training session regarding construction site stormwater runoff control per year for employees carrying out LFUCG's construction site stormwater runoff control program. After July 1, 2008, only inspections carried out by employees who have received such training will count as inspections meeting requirements of Performance Standard CS-6.	*	*	*	*	*	DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.  
 Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

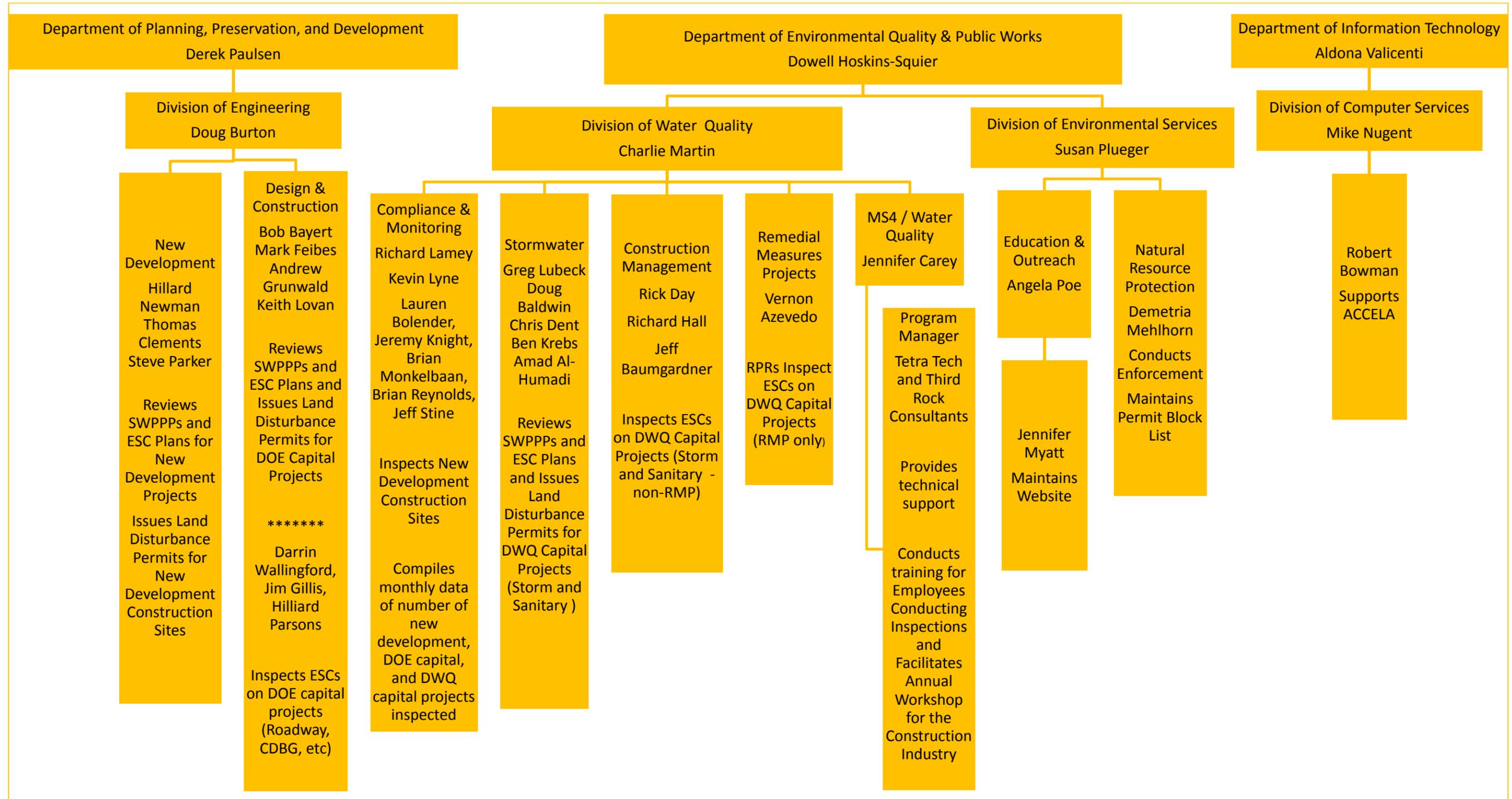
21. Construction Community Training – provide a copy of the agenda, sign in sheets, and copies of any PowerPoint slides or handouts.
22. LFUCG Employee Training / PS-CS-13 – provide a copy of the agenda, sign in sheets, and copies of any PowerPoint slides or handouts.
23. Evaluation of Training – provide copies of the evaluation form templates and a summary of the evaluation forms.

## **Construction Site Stormwater Runoff Control Additional**

Although not a permit requirement, LFUCG intends to complete the following during this permit cycle:

LFUCG's Divisions of Environmental Services and Water Quality want to request that the Environmental Commission add an awards category to recognize developments and sites implementing appropriate, effective, and well-maintained ESC BMPs. If the commission agrees to add this award category, Environmental Inspectors would be encouraged to promote this award to the permittees of Land Disturbance Permits. The permittees could self-nominate for the award if they so choose.

# Construction Site Stormwater Runoff Control – Organization Chart by Department and Division



# Post-Construction Stormwater Management in New Development and Redevelopment

PC 1 Legal Prohibition/Control Authority

PC 2 Pollution Prevention Planning for New Development &  
Redevelopment

PC 3 Maintaining Stormwater Structures

PC 4 Inventory, Monitoring & Inspection

PC 5 Pollution Prevention Enforcement

PC 6 Evaluation

PC 7 Education

PC 8 Training

PC A Additional

## Post-Construction Stormwater Management in New Development and Redevelopment (PC)

### KPDES Permit Narrative from Part II:

#### “Post-Construction Stormwater Management in New Development and Redevelopment

- a. Continue to enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts.
- b. Update, as needed, and implement strategies, which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community;
- c. The permittee shall continue to enforce LFUCG Code of Ordinances Section 16-85 which adopts the urban county government’s Stormwater Manual that contains stormwater quality management requirements for new development and redevelopment. The permittee shall require that new development manage post-construction runoff through water quality control structures from at least the 80<sup>th</sup> percentile precipitation event; and
- d. Ensure adequate long-term operation and maintenance of BMPs.

Compliance with these terms is achieved by implementing the program elements, as shown in Table 5 ([Post-Construction Stormwater Management in New Development and Redevelopment](#)) in Section E of this Part, except where inconsistent with other provisions of this permit.”

**KPDES Permit Table 5 Objective:** “The objective is to develop, implement, and enforce programs and procedures to minimize pollutants from stormwater runoff to the municipal separate storm sewer system (MS4). This program applies only to the Urban Service Area and the "Urban Areas" for Implementation of LFUCG's Stormwater Quality Management Program that is notated in the map attached to the permit.”

### KPDES Permit Narrative from Part III:

#### “ANNUAL REPORTING REQUIREMENTS

The permittee shall prepare an annual system-wide report to be submitted no later than July 15<sup>th</sup> of the year following the period covered by the report. The annual report shall cover the period beginning on January 1 through December 31, 2015, and annually thereafter. The annual report shall include but not be limited to:

...5. Summary of inspections and enforcement actions for regulatory programs.”

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Program Element Effectiveness:** The success of the [Post-Construction Stormwater Management in New Development and Redevelopment](#) program elements will be determined by comparing actual achievements to the measurable goals for each program element listed in this section.

## **PC 1 Legal Prohibition/Control Authority**

### **Program Elements from KPDES Permit Table 5 Section PC 1:**

“The permittee shall continue to enforce LFUCG Code of Ordinances Section 16-85 which adopts LFUCG’s Stormwater Manual that contains stormwater quality management requirements for new development and redevelopment.

“The permittee shall review and evaluate existing ordinances and propose updates to the Urban County Council as needed.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 5 Section PC 1. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PC 1 – Legal Prohibition/Control Authority  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Maintain Stormwater Quality Management Requirements	MG-PC-01: Continue to enforce LFUCG Code of Ordinances Section 16-85 which adopts LFUCG's Stormwater Manual that contains stormwater quality management requirements for new development and redevelopment.	X	X	X	X	X	DES
Review of Existing Ordinances	MG-PC-02: Review and evaluate existing ordinances and propose updates, if needed, to the Urban County Council once during the permit cycle.					X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Maintain Stormwater Quality Management Requirements – provide a link to the current ordinance in force (Section 16-85) and a link to the current version of the Stormwater Manual.
2. Review of Existing Ordinances – provide documentation of ordinance review and recommended changes, if any.

## **PC 2 Pollution Prevention Planning for New Development & Redevelopment**

### **Program Elements from KPDES Permit Table 5 Section PC 2:**

“The permittee shall maintain a comprehensive engineering design standards process that is compatible with the prevention and reduction of pollutants from the MS4. The design standards shall be a part of the planning process to prevent or reduce pollutants from the MS4. The designs standards shall maintain procedures for site planning which incorporate considerations of potential water quality and habitat impacts.

“The permittee shall incorporate its low impact development guidelines for new development and redevelopment into the Stormwater Manual.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 5 Section PC 2. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PC 2 – Pollution Prevention Planning for New Development & Redevelopment  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
LFUCG Engineering Design Standards	MG-PC-03: Maintain a comprehensive engineering design standards process that is compatible with the prevention and reduction of pollutants from the MS4. The design standards shall be a part of the planning process to prevent or reduce pollutants from the MS4. The designs standards shall maintain procedures for site planning which incorporate considerations of potential water quality and habitat impacts. To be reviewed and updated, as needed, within 18 months of effective date of the permit and every 3 years thereafter.		X			X	DOE
Low Impact Development Guidelines	MG-PC-04: Incorporate, within three years of effective date of the permit, the Low Impact Development Guidelines for New Development and Redevelopment into the Stormwater Manual.			X			DOE

**Performance Standards from Consent Decree**

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Engineering Design Standards, Subdivision Regulations, and Procedures for Review of Development Plans	PS-PPRC-2: By January 31, 2010, review and update, as appropriate, with the goal of improving water quality in stormwater discharges from new development and redevelopment, engineering design standards, applicable sections of the Subdivision Regulations, and the procedures for reviewing development plans for compliance with stormwater management requirements, and reevaluate every three years thereafter. Consistent with the goal of improving water quality, in conducting the review and update, and successive reevaluations, LFUCG shall also have a goal of identifying and removing any legal impediments to, and facilitating the use of, "green infrastructure" alternatives to managing post-construction stormwater, such as infiltration, reuse, and evapotranspiration.	*			*		DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.

Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

3. LFUCG Engineering Design Standards – provide documentation of process and standards review and updates made, if any.
4. Low Impact Development Guidelines – provide a link to the updated Stormwater Manual. Note if any of the LID guidelines from September 2012 were either significantly altered for inclusion in the Stormwater Manual or not incorporated into the Stormwater Manual and the reasoning to support that.

PS-PPRC-2 – provide documentation of the reevaluation of the engineering design standards, applicable sections of the Subdivision Regulations, and the procedures for reviewing development plans.

## **PC 3 Maintaining Stormwater Structures**

### **Program Elements from KPDES Permit Table 5 Section PC 3:**

“The permittee shall continue implementation of its policies pertaining to repair, maintenance, and ownership of stormwater control devices on private property, including retention ponds, detention basins, and other stormwater control devices.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 5 Section PC 3. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.



**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

5. Structural Controls – provide a link to the Repair, Maintenance, and Ownership of Stormwater Control Devices Policy Statement.

## **PC 4 Inventory, Monitoring & Inspection**

### **Program Elements from KPDES Permit Table 5 Section PC 4:**

“The permittee shall annually update the inventory and mapping of post-construction stormwater controls in the Urban Service Area and Urban Areas, including detention basins, retention ponds, and other stormwater control devices.

“The permittee shall maintain and update its inventory and mapping of publicly-owned storm sewer pipes 18" and larger.

“The permittee shall create an inventory list of completed known stream restoration projects within the county and update the inventory list annually.

“The permittee shall maintain procedures and checklists to facilitate inspections of post-construction stormwater controls.

“The permittee shall ensure the inspection of at least fifty (50%) percent of the publicly- and privately-owned stormwater detention basins with reasonable potential to discharge pollutants to the MS4.

“The permittee shall ensure the inspection of at least fifty (50%) percent of the publicly- and privately-owned retention ponds with reasonable potential to discharge pollutants to the MS4.

“The permittee shall conduct inspections of at least fifty (50%) percent of critical culverts and structures identified in the SWQMP for clogging and excessive sediment buildup.

“The permittee shall continue implementing necessary repairs, cleaning, and maintenance for those structures for which LFUCG is responsible, based upon results of the inspection.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 5 Section PC 4. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PC 4 – Inventory, Monitoring & Inspection  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Inventory and Mapping of Post-Construction Stormwater Controls	MG-PC-06: Annually update the inventory and mapping of post-construction stormwater controls required by the Stormwater Manual in the Urban Service Area and Urban Areas, including detention basins, retention ponds, and other stormwater control devices.	X	X	X	X	X	DWQ
Inventory and Mapping of Publicly-Owned Storm Sewer Pipes	MG-PC-07: Annually update the inventory and mapping of publicly-owned storm sewer pipes 18" and larger.	X	X	X	X	X	DCS
Stream Restoration Projects	MG-PC-08: Create an inventory list of completed known stream restoration projects within the county in Year 1.	X					DWQ
	MG-PC-09: Annually update the inventory list.		X	X	X	X	DWQ
Inspection of Stormwater Controls	MG-PC-10: Review and update, if needed, once per permit cycle the procedures and checklists to facilitate inspections of post-construction stormwater controls.			X			DWQ
	MG-PC-11: Maintain and follow procedures and checklists to facilitate inspections of post-construction stormwater controls	X	X	X	X	X	DWQ
Detention Basin Inspections	MG-PC-12: Conduct inspections of at least fifty (50%) percent of the publicly- and privately-owned stormwater detention basins with reasonable potential to discharge pollutants to the MS4 at least 2 times per year.	X	X	X	X	X	DWQ
Retention Pond Inspections	MG-PC-13: Conduct inspections of at least fifty (50%) percent of the publicly- and privately-owned retention ponds with reasonable potential to discharge pollutants to the MS4 at least 2 times per year.	X	X	X	X	X	DWQ
Critical Culverts and Structure Inspections	MG-PC-14: Conduct inspections of at least fifty (50%) percent of critical culverts and structures identified in the current inventory for clogging and excessive sediment buildup at least once per month and within three working days of a rainfall of 1 inch or more in a calendar day.	X	X	X	X	X	DWQ
	MG-PC-15: Annually evaluate and update, as needed, the inventory of critical culverts and structures.	X	X	X	X	X	DWQ
LFUCG's Post-Inspection Activities	MG-PC-16: Continue implementing necessary repairs, cleaning, and maintenance for those structures for which LFUCG is responsible, based upon results of the inspection.	X	X	X	X	X	DWQ

### Performance Standards from Consent Decree

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Inventory and Map of Post-Construction Stormwater Controls	PS-PPRC-10: Commencing in calendar year 2009, annually update the inventory and map of post-construction stormwater controls, including retention ponds, detention basins, and stormwater quality treatment facilities.	*	*	*	*	*	DWQ
Inventory and Map of Publicly-Owned Storm Sewer Pipes 18" and Larger	PS-PPRC-11: Develop an inventory and a map of publicly-owned storm sewer pipes 18" and larger by the end of the renewed MS4 KPDES permit cycle. After this initial effort, the inventory and map will be updated annually.	*	*	*	*	*	DCS
Detention Basin Inspections	PS-PPRC-14: Commencing with the first full calendar month after entry of the Consent Decree, ensure the inspection of at least 90% of the publicly- and privately-owned detention basins with reasonable potential to discharge pollutants to the MS4 at least two times a year.	*	*	*	*	*	DWQ
Retention Pond Inspections	PS-PPRC-15: Commencing with the first full calendar month after entry of the Consent Decree, ensure the inspection of at least 90% of the publicly- and privately-owned retention ponds with reasonable potential to discharge pollutants to the MS4 at least once a month.	*	*	*	*	*	DWQ
Critical Culvert Inspections	PS-PPRC-16: Commencing with the first full calendar month after entry of the Consent Decree, ensure the inspection of at least 90% of the culverts in Appendix LL for clogging and excessive buildup of sediment at least once a month and within three days of a rainfall of 1 inch or more in a calendar day.	*	*	*	*	*	DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.

Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

6. Inventory and Mapping of Post-Construction Stormwater Controls / PS-PPRC-10 – provide inventory lists for detention basins, retention ponds, underground basins, and water quality BMPs; along with pdf maps of the controls by watershed.
7. Inventory and Mapping of Publicly-Owned Storm Sewer Pipes / PS-PPRC-11 – provide pdf maps of the storm sewer network by watershed.
8. Stream Restoration Projects – provide an initial inventory list.
9. Stream Restoration Projects – provide an updated inventory list.
10. Inspection of Stormwater Controls (procedures and checklists) – provide documentation of procedures and checklists review and updates made, if any.
11. Inspection of Stormwater Controls (conduct) – provide an annual summary of the number of inspections completed.
12. Detention Basin Inspections / PS-PPRC-14 – provide a summary of the two times per year inspections.
13. Retention Pond Inspections / PS-PPRC-15 – provide a summary of the two times per year (PS-PPRC-15 – monthly) inspections.
14. Critical Culvert and Structure Inspections / PS-PPRC-16 – provide a summary of the monthly inspections and post->1" rainfall inspections.
15. Critical Culvert and Structure Inspections (inventory) – provide a list of the current critical culvert and structure inventory.
16. LFUCG's Post-Inspection Activities – provide a summary of repairs, cleaning, and maintenance completed by LFUCG staff or contractors.

## **PC 5 Pollution Prevention Enforcement**

### **Program Elements from KPDES Permit Table 5 Section PC 5:**

“The permittee shall continue implementation of a program to require private owners of stormwater controls to conduct or arrange for necessary maintenance, cleaning and repairs of the controls. The program shall address privately-owned retention ponds, detention basins, and other stormwater control devices. The permittee shall implement enforcement procedures to require responsible parties to perform necessary repair, cleaning, and maintenance for those structures for which LFUCG is not responsible, based upon results of the inspection.

“The permittee shall refine the Enforcement Response Plan for Post-Construction Stormwater Management.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 5 Section PC 5. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PC 5 – Pollution Prevention Enforcement  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Compliance and Enforcement for Privately-Owned Stormwater Controls	MG-PC-17: Focusing on compliance, continue implementation of a program to require private entity owners of stormwater controls to conduct or arrange for necessary maintenance, cleaning, and repairs of the controls. The program shall address privately-owned retention ponds, detention basins, and other stormwater control devices.	X	X	X	X	X	DWQ
	MG-PC-18: If compliance cannot be obtained, continue implementation of enforcement procedures to require responsible parties to perform necessary repair, cleaning, and maintenance for those structures for which LFUCG is not responsible, based upon results of the inspection.	X	X	X	X	X	DES
Enforcement Response Plan	MG-PC-19: Refine the Enforcement Response Plan for Post-Construction Stormwater Management within twelve months of the effective permit date.	X					DWQ
Documentation	MG-PC-20: Track, document, and report enforcement activities related to the PC program.	X	X	X	X	X	DES

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

17. Compliance and Enforcement for Privately-Owned Stormwater Controls (compliance) – provide a list of privately-owned stormwater controls requiring repairs, cleaning, or maintenance.
18. Compliance and Enforcement for Privately-Owned Stormwater Controls (enforcement) – provide a list of privately-owned stormwater controls referred to DES.
19. Enforcement Response Plan – provide a copy of the ERP.
20. Documentation – provide enforcement action summary, including actions taken for existing post-construction controls, as well as those not built per the accepted improvement or stormwater management plan.

## **PC 6 Evaluation**

### **Program Elements from KPDES Permit Table 5 Section PC 6:**

“The permittee shall update and begin implementation of a revised program to prioritize and monitor select post-construction stormwater quality controls.

“The permittee shall evaluate the effectiveness of structural and source controls in the LFUCG Stormwater Manual.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 5 Section PC 6. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PC 6 – Evaluation  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Monitoring Post-Construction Stormwater Controls	MG-PC-21: Update and begin implementation of a revised program to prioritize and monitor select post-construction stormwater quality controls within 2 years of effective date of the permit.		X				DWQ
Evaluate Effectiveness of Post-Construction Stormwater Controls	MG-PC-22: Evaluate the effectiveness of structural and source controls in the LFUCG Stormwater Manual controls once per permit cycle.					X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

21. Monitoring Post-Construction Stormwater Controls – provide a copy of the monitoring program and monitoring results.
22. Evaluate Effectiveness of Post-Construction Stormwater Controls – provide a summary of the evaluation of the effectiveness of the structural and source controls included in the Stormwater Manual.

## **PC 7 Education**

### **Program Elements from KPDES Permit Table 5 Section PC 7:**

“The permittee shall promote, publicize, and facilitate public reporting of the proper implementation of structural and source controls to reduce pollutants (including floatables) from stormwater runoff from the MS4.

“The permittee shall maintain operations and maintenance guidelines for post-construction stormwater quality controls for use by private property owners that addresses structural and non-structural stormwater runoff control areas on private property.

“The permittee shall have hard copies of the structure and source control materials and the Operations and Maintenance Manual available to the public.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 5 Section PC 7. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

## SWQMP Table PC 7 – Education

### Measurable Goals

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Public Reporting	MG-PC-23: Promote, publicize, and facilitate public reporting of the proper implementation of structural and source controls to reduce pollutants (including floatables) from stormwater runoff from the MS4 by directing the public to LexCall (311).	X	X	X	X	X	DWQ
Operations and Maintenance Guidelines	MG-PC-24: Review and update, if needed, once per permit operations and maintenance guidelines for post-construction stormwater quality controls for use by private property owners that addresses structural and non-structural stormwater runoff control areas on private property.			X			DWQ
	MG-PC-25: Maintain operations and maintenance guidelines for post-construction stormwater quality controls for use by private property owners that addresses structural and non-structural stormwater runoff control areas on private property.	X	X	X	X	X	DWQ
Hard Copies	MG-PC-26: Print hard copies of the structure and source control materials and the operations and maintenance guidelines as requested.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

23. Public Reporting – provide links to or copies of materials developed that show the reference to calling LexCall (311).
24. Operations and Maintenance Guidelines (review and update) – provide documentation of O&M Guidelines review and updates made, if any.
25. Operations and Maintenance Guidelines (provide) – provide a link to the O&M Guidelines on the city’s website.
26. Hard Copies – provide a count of the number of hard copies printed, as requested.

## PC 8 Training

### **Program Elements from KPDES Permit Table 5 Section PC 8:**

“The permittee shall provide one-on-one training and guidance for property owners with stormwater control devices as requested. The permittee shall track these trainings as they occur.

“The permittee shall produce video segments on stormwater control device maintenance activities for web posting (e.g., YouTube).

“The permittee shall track the number of video views and review posted comments. Near the end of Year 5, the permittee shall evaluate the usefulness of the video segments for the public audience.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 5 Section PC 8. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PC 8 – Training  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Training for the Public	MG-PC-27: Provide one-on-one training and guidance for property owners with stormwater control devices as requested and scheduled. Track these trainings, via spreadsheet, as they occur.	X	X	X	X	X	DWQ
Produce Training Video Segments	MG-PC-28: Produce video segments on stormwater control device maintenance activities for web posting (e.g., YouTube). Produce and post one video segment in Year 1, Year 3, and Year 5.	X		X		X	DWQ
	MG-PC-29: Annually track the number of video views and review posted comments.	X	X	X	X	X	DWQ
	MG-PC-30: Near the end of Year 5, evaluate the usefulness of the video segments for the public audience.					X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

27. Training for the Public – provide a copy or a summary of the tracking spreadsheet.
28. Produce Training Video Segments (produce) – provide a link to the posted video.
29. Produce Training Video Segments (track) – provide a count of the number of views and a summary of any posted comments.
30. Produce Training Video Segments (evaluate) – provide an evaluation of the usefulness of the video segments.

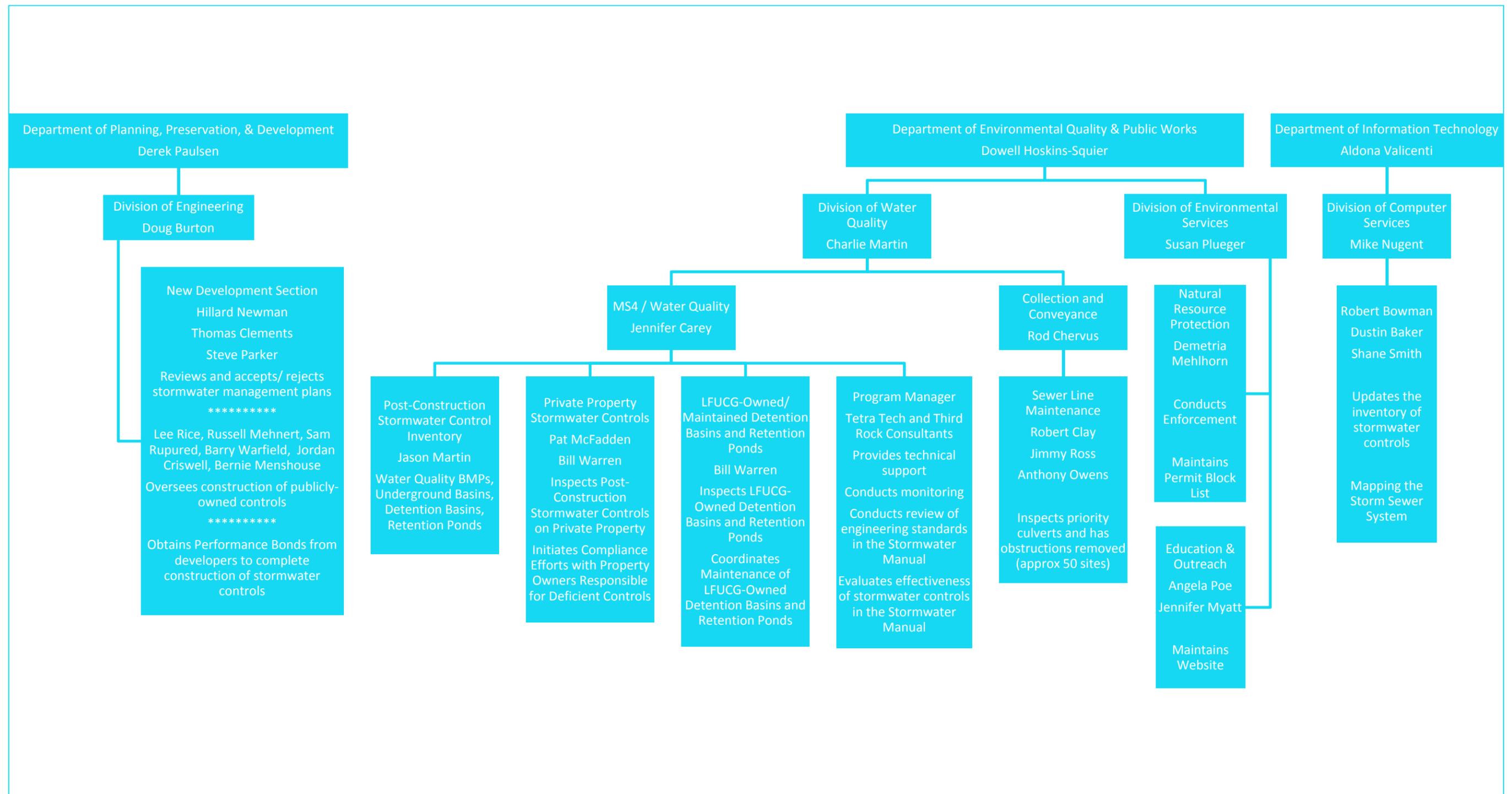
## Post-Construction Stormwater Management in New Development and Redevelopment **Additional**

Although not permit requirements, LFUCG intends to complete the following during this permit cycle:

LFUCG's Divisions of Engineering and Water Quality are working to formalize the process of transitioning stormwater controls from the construction phase to the post-construction inventory by ensuring that stormwater controls are built per the approved improvement plan or construction plans and that all temporary ESC BMPs are removed prior to the transition from the construction phase to the post-construction inventory. DWQ will take the lead on this effort and will have the process documented by the end of permit year 2.

In addition to the critical culvert and structure inventory, DWQ would like to develop a Preventative Maintenance (PM) list(s) of non-critical structures which need inspection and maintenance less frequently than once per month, but that typically require attention from Sewer Line Maintenance staff on a quarterly, semi-annual, or annual basis. DWQ will take the lead on this effort and will develop the PM list(s) by then end of the permit term.

## Post-Construction Stormwater Management in New Development and Redevelopment – Organization Chart by Department and Division



# Pollution Prevention for Municipal Operations

PPMO 1 Municipal Construction Projects

PPMO 2 Maintaining Stormwater Structures

PPMO 3 Municipal Practices

PPMO 4 Inventory, Monitoring, and Inspection

PPMO 5 Training

PPMO A Additional

## Pollution Prevention for Municipal Operations (PPMO)

### KPDES Permit Narrative from Part II:

#### “Pollution Prevention/Good Housekeeping for Municipal Operations

Update, as needed, and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, the state or other organizations, the program must include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, municipal waste landfills, and stormwater system maintenance.

Maintenance of public streets, roads, and highways, including pollutants discharged as a result of deicing application and storage practices must implement alternative measures that might benefit water quality from runoff from roadway and salt bin storage locations and will not affect public safety.

Compliance with these terms is achieved by implementing the program elements as shown in Table 6 ([Pollution Prevention for Municipal Operations](#)) in Section E of this Part, except where inconsistent with other provisions of this permit.”

**KPDES Permit Table 6 Objective:** “The objective is to develop and implement programs and procedures to minimize pollutants from stormwater runoff from municipal operations to the municipal separate storm sewer system (MS4). This program applies only to the Urban Service Area and the "Urban Areas" for Implementation of LFUCG's Stormwater Quality Management Program that is notated in the map attached to the permit.”

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Program Element Effectiveness:** The success of the [Pollution Prevention for Municipal Operations](#) program elements will be determined by comparing actual achievements to the measurable goals for each program element listed in this section.

## **PPMO 1 Municipal Construction Projects**

### **Program Elements from KPDES Permit Table 6 Section PPMO 1:**

“The permittee shall review and update, as needed, the general conditions section of the specifications for construction projects to educate contractors of their obligations under local, state, and federal permits and stormwater pollution prevention requirements.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 6 Section PPMO 1. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PPMO 1 – Municipal Construction Projects**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Capital Projects	MG-PPMO-01: Review and update, as needed, the general conditions section of the specifications for construction projects (across all applicable divisions) to educate contractors of their obligations under local, state, and federal permits and stormwater pollution prevention requirements once during the permit cycle.		X				DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Capital Projects – provide documentation of the review of the general conditions section of the specifications for capital construction projects pertaining to permits and stormwater pollution prevention requirements and recommended changes, if any.

## **PPMO 2 Maintaining Stormwater Structures**

### **Program Elements from KPDES Permit Table 6 Section PPMO 2:**

“The permittee shall continue implementation of a program to maintain stormwater quality controls on LFUCG property, including, but not limited to maintenance, cleaning, and repairs based on inspection findings. The program shall address publicly-owned or operated retention ponds, detention ponds, and other stormwater control devices.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 6 Section PPMO 2. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.



**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

2. LFUCG Property – provide an annual summary of maintenance, cleaning, and repairs of LFUCG-owned retention ponds, detention basins, and other stormwater control devices.

## **PPMO 3 Municipal Practices**

### **Program Elements from KPDES Permit Table 6 Section PPMO 3:**

“The permittee shall review and update, as needed, its Greenworks Guides for municipal practices. The permittee shall create a similar guidance document for municipal practices if it terminates the use of the Greenworks Guides. The permittee shall create additional guides if new municipal practices are implemented that have the reasonable potential to discharge pollutants to the MS4.

“The permittee shall continue promoting the use of the Greenworks Guides to its employees at applicable municipal facilities.

“The permittee shall track amounts of chemicals used for turf management and propose ways to reduce their usage.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 6 Section PPMO 3. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PPMO 3 – Municipal Practices  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Greenworks Guides	MG-PPMO-03: Annually review and update, as needed, the Greenworks Guides, or similar, for municipal practices.	X	X	X	X	X	DES
	MG-PPMO-04: Annually evaluate the need for and create additional guides if new municipal practices are implemented that have the reasonable potential to discharge pollutants to the MS4.	X	X	X	X	X	DES
	MG-PPMO-05: Continue promoting the use of the Greenworks Guides to employees at applicable municipal facilities.	X	X	X	X	X	DES
Application of Turf Management Chemicals	MG-PPMO-06: Determine which divisions use turf management chemicals and how to track usage.	X					DES
	MG-PPMO-07: Track amounts of chemicals used for turf management.		X	X	X	X	DES
	MG-PPMO-08: Propose ways to reduce the usage of turf management chemicals.					X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

3. Greenworks Guides (review and update) – provide documentation of the review of the Greenworks Guides and changes made, if any.
4. Greenworks Guides (evaluate need for additional guides) – provide documentation of the evaluation of any new municipal practices that would warrant the creation of additional Greenworks Guides and copies of the new guides.
5. Greenworks Guides (promote) – provide a copy of employee training agendas showing Greenworks Guides as a topic.
6. Application of Turf Management Chemicals (initial effort) – provide a list of the divisions using turf management chemicals and a plan to track usage.
7. Application of Turf Management Chemicals (track) – provide annual amounts of turf management chemicals used.
8. Application of Turf Management Chemicals (reduction effort) – provide a proposal of potential ways to reduce the usage of turf management chemicals based on usage the previous years of the permit cycle.

## **PPMO 4 Inventory, Monitoring, and Inspection**

### **Program Elements from KPDES Permit Table 6 Section PPMO 4:**

“The permittee shall maintain an inventory and map of stormwater quality controls at municipal facilities, including LFUCG-owned properties and right of ways that discharge to the MS4.

“The permittee shall inspect at least fifty (50%) percent of the known stormwater quality controls at LFUCG facilities annually.

“The permittee shall review and update, as needed, the procedures and checklists to facilitate inspections of known stormwater quality controls at LFUCG facilities.

“The permittee shall maintain an inventory of municipal waste facilities.

“The permittee shall review and update, as needed, the SWPPPs of municipal waste facilities.

“The permittee shall inspect its municipal waste facilities.

“The permittee shall conduct wet weather outfall monitoring at relevant outfalls of municipal waste facilities.

“The permittee shall refine its policies for the internal review, inspection, and correction of deficiencies at its facilities.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 6 Section PPMO 4. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table PPMO 4 – Inventory, Monitoring, and Inspection  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Inventory and Mapping of LFUCG-owned Stormwater Quality Controls	MG-PPMO-09: Annually update the inventory and map of stormwater quality controls at municipal facilities, including LFUCG-owned properties and right of ways that discharge to the MS4.	X	X	X	X	X	DES
Inspection of Stormwater Quality Controls	MG-PPMO-10: Inspect at least fifty (50%) percent of the known stormwater quality controls at LFUCG facilities annually.	X	X	X	X	X	DES
Inspection Checklist	MG-PPMO-11: Review and update, as needed, once per permit cycle the procedures and checklists to facilitate inspections of known stormwater quality controls at LFUCG facilities.			X			DES
Municipal Waste Facilities	MG-PPMO-12: Annually update the inventory of municipal waste facilities.	X	X	X	X	X	DES
	MG-PPMO-13: Annually review and update, as needed, the SWPPPs of municipal waste facilities.	X	X	X	X	X	DES
	MG-PPMO-14: Annually inspect the municipal waste facilities.	X	X	X	X	X	DES
	MG-PPMO-15: Annually conduct wet weather outfall monitoring at relevant outfalls of municipal waste facilities.	X	X	X	X	X	DWQ
Addressing Deficiencies	MG-PPMO-16: Within two years of the effective date of the permit, refine the policies for the internal review, inspection, and correction of deficiencies at its facilities.		X				DES

**Performance Standards from Consent Decree**

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Municipal Waste Facilities	PS-IN-13: Commencing in calendar year 2008, conduct wet weather outfall monitoring once per year at Municipal Waste Facilities.	*	*	*	*	*	DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.

Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

9. Inventory and Mapping of LFUCG-owned Stormwater Quality Controls – provide an inventory list of stormwater quality controls/BMPs owned by LFUCG; along with pdf maps of the controls by watershed.
10. Inspection of Stormwater Quality Controls – provide a summary of the annual inspections of LFUCG-owned stormwater quality controls.
11. Inspection Checklist – provide documentation of the review of the Inspection Checklists and changes made, if any.
12. Municipal Waste Facilities (inventory) – provide an inventory list of the municipal waste facilities.
13. Municipal Waste Facilities (SWPPPs) – provide documentation of the review of the SWPPPs for the municipal waste facilities and changes made, if any.
14. Municipal Waste Facilities (inspection) – provide documentation of the inspections of the municipal waste facilities.
15. Municipal Waste Facilities (monitoring) / PS-IN-13 – provide documentation of the wet weather monitoring of the municipal waste facilities.
16. Addressing Deficiencies – provide documentation of the review of the policies for the internal review, inspection, and correction of deficiencies at municipal operations and changes made, if any.

## **PPMO 5 Training**

### **Program Elements from KPDES Permit Table 6 Section PPMO 5:**

“The permittee shall develop and conduct training for LFUCG employees involved in municipal practices that have a reasonable potential to discharge pollutants to the MS4.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 6 Section PPMO 5. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.



**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

17. Training for Applicable Employees – provide a copy of the agenda and sign-in sheets.

## Pollution Prevention for Municipal Operations **Additional**

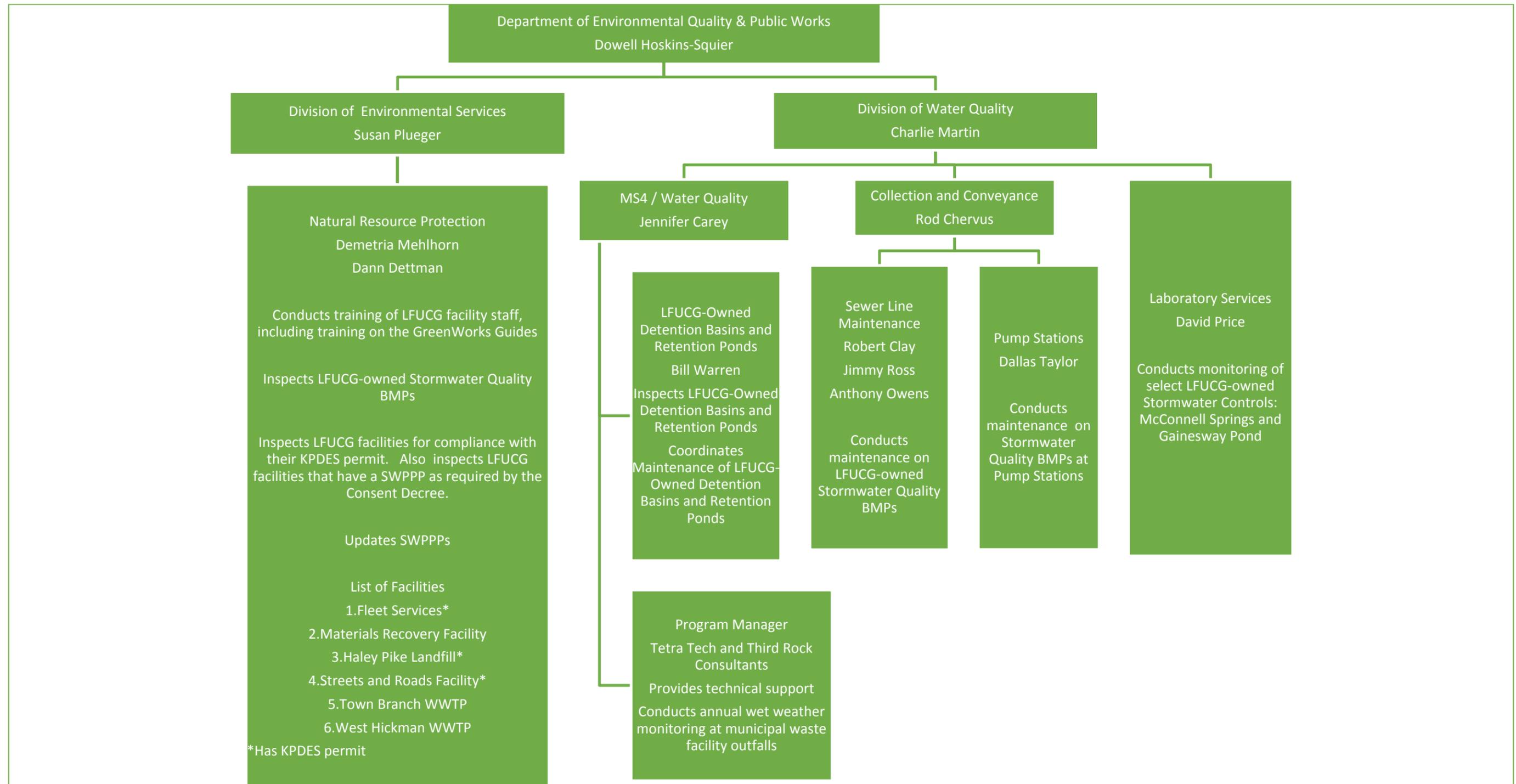
Although not permit requirements, LFUCG intends to complete the following during this permit cycle:

Post a link to one of the Greenworks Guides on the Intranet homepage once a quarter for a week, and track the number of clicks by employees to access the guide.

Develop Preventative Maintenance (PM) Lists for detention basins and retention ponds on property maintained by Parks, in order to keep these stormwater controls in compliance. DWQ will take the lead on this effort and will develop the PM list(s) by then end of the permit term.

Include city contractors (especially mowing contractors) in the Training for Applicable Employees BMP under PPMO 5 by Year 3. This may include watching a video and signing a certification that it was viewed.

## Pollution Prevention for Municipal Operations – Organization Chart by Department and Division



# Industrial Facility Stormwater Pollution Prevention

IN 1 Legal Prohibition/Control Authority

IN 2 Industrial Inventory

IN 3 Evaluation

IN 4 Pollution Prevention Programs

IN 5 Inspection

IN 6 Monitoring

IN 7 Enforcement of Controls

IN 8 Education

IN 9 Training

IN A Additional

## Industrial Facility Stormwater Pollution Prevention (IN)

### KPDES Permit Narrative from Part II:

“Monitor and Control Pollutants in Stormwater Discharges from Hazardous Waste Treatment Storage and Disposal Facilities (TSDF) and Industrial Facilities

Update, as needed, and implement a program to monitor and control pollutants in stormwater discharges to municipal systems from hazardous waste treatment, disposal, and recovery facilities; Industrial Facilities; and High-Risk Commercial Facilities. The program shall:

- a. Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;
- b. Describe a monitoring program for stormwater discharges associated with the industrial discharges identified above, to be implemented during the term of the permit.

Compliance with these terms is achieved by implementing the program elements, as shown in Table 7 ([Industrial Facility Stormwater Pollution Prevention](#)) in Section E of this Part, except where inconsistent with other provisions of this permit.”

**KPDES Permit Table 7 Objective:** “The objective is to develop, implement, and enforce programs and procedures to minimize pollutants from stormwater runoff from industrial sites to the municipal separate storm sewer system (MS4).”

### KPDES Permit Narrative from Part III:

#### “OUTFALL MAPPING

Per CFR 122.26 (d) (2) (iii) (C), (incorporated by reference in Kentucky Regulations at 401 KAR 5:060, Section 8), the permittee shall provide the location of all known major outfalls. The outfalls shall be identified in the annual report for Year 3 of the permit; with updates describing any additionally identified major outfall in each subsequent annual report. For the purpose of this permit a “major outfall” is defined as follows:

1. ...
3. A pipe (or closed conveyance) system draining “industrial-zoned land use,” with a cross-sectional area equal to or greater than 0.79 square feet (e.g., a single circular pipe system, an inside diameter of 12 inches or greater); or if applicable.
4. A single conveyance other than a pipe, such as an open channel ditch, which is associated with an “industrial-zoned land use” drainage area of more than 2 acres; if applicable.

The permittee shall also delineate the drainage areas of the separate storm sewer system and submit a map to the Division of Water in the Annual Report for Permit Year 3.”

#### “ANNUAL REPORTING REQUIREMENTS

The permittee shall prepare an annual system-wide report to be submitted no later than July 15<sup>th</sup> of the year following the period covered by the report. The annual report shall cover the period beginning on January 1 through December 31, 2015, and annually thereafter. The annual report shall include but not be limited to:

...5. Summary of inspections and enforcement actions for regulatory programs.”

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Program Element Effectiveness:** The success of the [Industrial Facility Stormwater Pollution Prevention](#) program elements will be determined by comparing actual achievements to the measurable goals for each program element listed in this section.

## **IN 1 Legal Prohibition/Control Authority**

### **Program Elements from KPDES Permit Table 7 Section IN 1:**

“The permittee shall control through ordinance, regulations, permit, operational procedures, or other regulatory means, the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity (as defined in 40 CFR 122.26(b)) and the quality of stormwater discharged from sites of industrial activity. [Furthermore, refer to Table 3., Illicit Discharge Detection and Elimination for the control authority and prohibition of non-exempt, non-stormwater discharges; spills; dumping; or disposal of materials other than stormwater into the MS4.]

“The permittee shall review and evaluate existing ordinances and propose updates to the Urban County Council as needed.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 7 Section IN 1. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IN 1 – Legal Prohibition/Control Authority  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Control Stormwater Discharges from Industrial Activity	MG-IN-01: Ensure ordinances, regulations, permits, operational procedures, or other regulatory means controlling the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity (as defined in 40 CFR 122.26(b)) and the quality of stormwater discharged from sites of industrial activity remain in force.	X	X	X	X	X	DWQ
Review of Existing Ordinances and Regulatory Authority	MG-IN-02: Review and evaluate existing ordinances, regulations, permits, operational procedures, or other regulatory means regarding stormwater discharges from industrial activity, and propose updates, if needed, to the Urban County Council once during the permit cycle.			X			DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Control Stormwater Discharges from Industrial Activity – provide a link to the current ordinance in force (Chapter 16, Article X, Division 3).
2. Review of Existing Ordinances and Regulatory Authority – provide documentation of ordinance, regulations, permits, operational procedures, or other regulatory means review and recommended changes, if any.

## **IN 2 Industrial Inventory**

### **Program Elements from KPDES Permit Table 7 Section IN 2:**

“The permittee shall update the inventory of Industrial Facilities with reasonable potential to discharge pollutants to the MS4 on an annual basis.

“The permittee shall update the inventory of High-Risk Commercial Facilities.

“The permittee shall maintain a database to track relevant information including enforcement and corrective action, regarding Industrial Facilities and High-Risk Commercial Facilities.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 7 Section IN 2. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IN 2 – Industrial Inventory  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Industrial Facilities Inventory	MG-IN-03: Update the inventory of Industrial Facilities with reasonable potential to discharge pollutants to the MS4 on an annual basis.	X	X	X	X	X	DWQ
High-Risk Commercial Facilities Inventory	MG-IN-04: Update the inventory of High-Risk Commercial Facilities with reasonable potential to discharge pollutants to the MS4 on an annual basis.	X	X	X	X	X	DWQ
Maintain Database	MG-IN-05: Maintain the database used to track relevant information including enforcement and corrective action, regarding Industrial Facilities and High-Risk Commercial Facilities.	X	X	X	X	X	DWQ

**Performance Standards from Consent Decree**

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Update the Inventory of Industrial Facilities	PS-IN-1: Update the inventory of Industrial Facilities with reasonable potential to discharge pollutants to the MS4 on an annual basis commencing January 31, 2009.	*	*	*	*	*	DWQ
Update the Inventory of High-Risk Commercial Facilities	PS-IN-3: Compile an inventory of High-Risk Commercial Facilities by July 1, 2008. Update this inventory on annually commencing in calendar year 2009.	*	*	*	*	*	DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.

Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

3. Industrial Facilities Inventory / PS-IN-1 – provide a copy of the current inventory.
4. High-Risk Commercial Facilities Inventory / PS-IN-3 – provide a copy of the current inventory.
5. Maintain Database – provide a narrative of any updates made to the database housing inspection, enforcement, and corrective action information.

## **IN 3 Evaluation**

### **Program Elements from KPDES Permit Table 7 Section IN 3:**

“The permittee shall maintain programs, procedures, and/or policies to review and evaluate the stormwater pollution plans, programs, and procedures of the industries it determines present significant sources of stormwater pollutants to the MS4.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 7 Section IN 3. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IN 3 – Evaluation  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Procedures/Policies/Criteria to Review/Evaluate Industrial and High-Risk Commercial Facilities	MG-IN-06: During Year 1, review and update, if needed, the procedures/policies/criteria to review and evaluate the nature and activities of the industrial and HRC facilities it determines present significant sources of stormwater pollutants to the MS4 and ensure they are placed on the appropriate inventory.	X					DWQ
Review/Evaluate Industrial and High-Risk Commercial Facilities	MG-IN-07: Implement procedures/policies/criteria to review and evaluate the nature and activities of the industrial and HRC facilities it determines present significant sources of stormwater pollutants to the MS4.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

6. Procedures/Policies/Criteria to Review/Evaluate Industrial and High-Risk Commercial Facilities – provide documentation of procedures/policies/criteria review and recommended changes, if any.
7. Review/Evaluate Industrial and High-Risk Commercial Facilities – providing the updated inventories as a part of IN 2 will document this review and evaluation.

## **IN 4 Pollution Prevention Programs**

### **Program Elements from KPDES Permit Table 7 Section IN 4:**

“The permittee shall review and update, as needed, its example SWPPP for Industrial Facilities and High-Risk Commercial Facilities. The example SWPPPs will include general BMPs that can be used by the industrial facilities.

“The permittee shall maintain a list of industries, businesses, and institutions that should have Stormwater Pollution Prevention Plans (SWPPPs).”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 7 Section IN 4. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IN 4 – Pollution Prevention Programs**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
SWPPP Template	MG-IN-08: Review and update, as needed, the SWPPP template(s) for Industrial Facilities and High-Risk Commercial Facilities. The example SWPPP(s) will include general BMPs that can be used by the industrial facilities.			X			DWQ
Facilities Required to Have a SWPPP	MG-IN-09: Annually update the list of industries, businesses, and institutions that should have Stormwater Pollution Prevention Plans (SWPPPs).	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

8. SWPPP Template – provide a link to the SWPPP Template.
9. Facilities Required to Have a SWPPP – provide a list of the facilities which should have a SWPPP. This may be done in conjunction with the inventories provided in IN 2.

## IN 5 Inspection

### **Program Elements from KPDES Permit Table 7 Section IN 5:**

“The permittee shall review and update, as needed, procedures for conducting inspections of Industrial Facilities to ensure compliance with local ordinances and requirements regarding pollution prevention. Procedures will also address education and enforcement mechanisms to address any deficiencies or violations found at the facilities,

“The permittee shall inspect at least ninety (90%) percent of the locally identified High-Risk Commercial Facilities each permit cycle.

“The permittee shall inspect at least seventy (70%) percent of the Industrial Facilities at least once every two years.

“The permittee shall inspect no-exposure industrial facilities to verify their categorization.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 7 Section IN 5. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IN 5 – Inspection  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Procedures for Conducting Inspections	MG-IN-10: Review and update, as needed, the procedures for conducting inspections of Industrial Facilities to ensure compliance with local ordinances and requirements regarding pollution prevention. Procedures will also address education and enforcement mechanisms to address any deficiencies or violations found at the facilities.			X			DWQ
Inspect High-Risk Commercial Facilities	MG-IN-11: Inspect at least ninety (90%) percent of the locally identified High-Risk Commercial Facilities each permit cycle.					X	DWQ
Inspect Industrial Facilities	MG-IN-12: Inspect at least seventy (70%) percent of the Industrial Facilities at least once every two years.		X		X		DWQ
Inspect No-Exposure Industrial Facilities	MG-IN-13: Inspect no-exposure industrial facilities to verify their categorization once per permit cycle.					X	DWQ

**Performance Standards from Consent Decree**

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Inspect Industrial Facilities	PS-IN-10: Inspect 90% of the Industrial Facilities with reasonable potential to discharge pollutants to the MS4 once every two years, commencing in calendar year 2009.		*		*		DWQ
Inspect High-Risk Commercial Facilities	PS-IN-11: Inspect 20% of the High-Risk Commercial Facilities with reasonable potential to discharge pollutants to the MS4 each year, commencing in calendar year 2009.	*	*	*	*	*	DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.  
 Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

10. Procedures for Conducting Inspections – provide documentation of procedures review and recommended changes, if any.
11. Inspect High-Risk Commercial Facilities / PS-IN-11 – provide the number of inspections conducted each year.
12. Inspect Industrial Facilities / PS-IN-10 – provide the number of inspections conducted each year.
13. Inspect No-Exposure Industrial Facilities – provide the number of inspections conducted each year.

## **IN 6 Monitoring**

### **Program Elements from KPDES Permit Table 7 Section IN 6:**

“The permittee shall conduct dry weather screening at the outfalls of selected industrial and high-risk commercial facilities using the IDDE program’s dry weather screening protocols.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 7 Section IN 6. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IN 6 – Monitoring  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Facility Monitoring	MG-IN-14: Select the industrial and high-risk commercial facility outfalls for monitoring.			X			DWQ
	MG-IN-15: Conduct dry weather screening at the outfalls of selected industrial and high-risk commercial facilities using the IDDE program's dry weather screening protocols once per permit cycle.					X	DWQ

**Performance Standards from Consent Decree**

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Conduct Representative Outfall Dry Weather Screening	PS-IN-16: Upon reissuance of the renewed MS4 KPDES Permit, conduct representative outfall dry weather screening once per permit cycle.					*	DWQ

\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.

Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

14. Facility Monitoring (select outfalls) – provide a list of the selected outfalls.
15. Facility Monitoring (conduct monitoring) / PS-IN-16 – provide a summary of the dry weather screening results.

## **IN 7 Enforcement of Controls**

### **Program Elements from KPDES Permit Table 7 Section IN 7:**

“The permittee shall review and update, as needed, the Enforcement Response Plan for Industrial Facilities.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 7 Section IN 7. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IN 7 – Enforcement of Controls**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Enforcement Response Plan for Industrial Facilities	MG-IN-16: Review and update, as needed, the Enforcement Response Plan for Industrial Facilities once per permit cycle.			X			DWQ
Documentation	MG-IN-17: Track and report enforcement activities related to the IN program.	X	X	X	X	X	DES

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

16. Enforcement Response Plan for Industrial Facilities – provide documentation of review and updates made, if any.
17. Documentation – provide report on enforcement activities related to the IN program.

## **IN 8 Education**

### **Program Elements from KPDES Permit Table 7 Section IN 8:**

“The permittee shall maintain a webpage that provides educational materials appropriate for industrial and high-risk commercial facilities, including the example SWPPP.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 7 Section IN 8. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IN 8 – Education**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Webpage	MG-IN-18: Maintain and annually update, as needed, a webpage that provides educational materials appropriate for industrial and high-risk commercial facilities, including the example SWPPP.	X	X	X	X	X	DES

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

18. Webpage – provide a link to the webpage for Industrial and High-Risk Commercial Facilities.

## **IN 9 Training**

### **Program Elements from KPDES Permit Table 7 Section IN 9:**

“The permittee shall provide training for industry groups and high-risk commercial businesses. SWPPPs should be one of the items covered during the training.”

“The permittee shall provide training for employees. This training may be done in conjunction with the employee training for the IDDE program.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 7 Section IN 9. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

## SWQMP Table IN 9 – Training

### Measurable Goals

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Training for Industry	MG-IN-19: Once every three years, provide training for industry groups and high-risk commercial businesses. SWPPPs should be one of the items covered during the training.			X			DWQ
Training for Employees	MG-IN-20: Annually, provide training for employees. This training may be done in conjunction with the employee training for the IDDE program.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

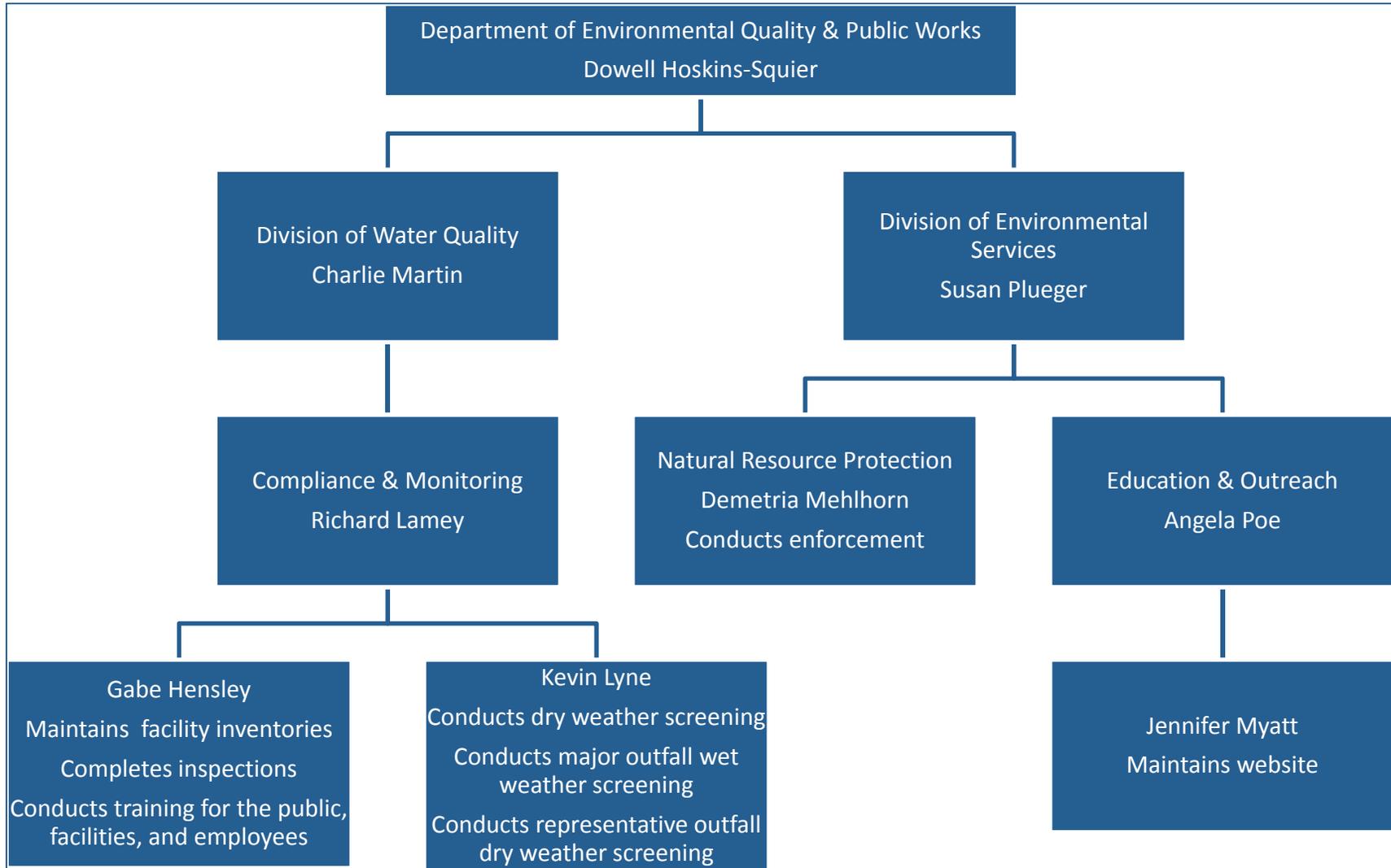
19. Training for Industry – provide a copy of the agenda, sign in sheets, and copies of any PowerPoint slides or handouts.
20. Training for Employees – provide a copy of the agenda, sign in sheets, and copies of any PowerPoint slides or handouts.

## **Industrial Facility Stormwater Pollution Prevention Additional**

Although not a permit requirement, LFUCG intends to complete the following during this permit cycle:

Evaluate the feasibility of separating industrial facilities into tiers based on their relative risk of polluting stormwater discharges by the end of Year 2. Definitions of the tiers will need to be developed, and should take stakeholder consideration into account. Consider proposing an increased inspection frequency to KDOW for those industrial facilities in the highest risk category/tier.

## Industrial Facility Stormwater Pollution Prevention – Organization Chart by Department and Division



## Water Quality Monitoring

MON 1 Pollution Prevention Program Assessment Data Collection

MON 2 Public Education and Public Outreach

MON 3 Education and Training

MON 4 Evaluation

MON 5 Trend Analysis Report

MON A Additional

## Water Quality Monitoring (MON)

**KPDES Permit Table 8 Objective:** “The objective is to develop and implement water monitoring programs to identify pollutants from stormwater runoff to the municipal separate storm sewer system (MS4) from the coverage area specified by the permit.”

### KPDES Permit Narrative from Part III:

#### “A. MONITORING PROGRAM REQUIREMENTS

1. The quality of the streams receiving MS4 discharges in Fayette County shall continue to be monitored to assess the water quality of the streams and to identify potential water quality impairments. This shall be accomplished by implementing the program elements in Table 8, of Part II, which include characterization data collection for watershed management programs assessment.
2. LFUCG will continue or maintain several facets of its current sampling program:
  - a. Dry weather monitoring shall continue at in-stream locations. There will be one site chosen in each of the major urban watersheds. The frequency shall remain quarterly. The list of parameters is included below.
  - b. Wet weather monitoring shall continue on a quarterly basis at the seven watershed sites. The list of parameters shall be the same as for the dry weather sampling. The list of parameters is included below.
  - c. Annual macroinvertebrate sampling shall continue at one location in each of the seven watersheds.
  - d. Fish sampling shall occur every other year beginning in Year 2 of the permit at one location in each of the seven watersheds.
  - e. Habitat assessment will continue on an annual basis at the seven sites selected for macroinvertebrate, fish, dry weather, and wet weather collections.
  - f. The list of parameters for the aforementioned dry weather/wet weather monitoring is as follows:

Flow  
pH  
Total Suspended Solids  
E. coli  
Total Phosphorus  
Dissolved Phosphorus

Ammonia  
Total Kjeldahl Nitrogen  
Nitrate plus Nitrite

3. LFUCG shall monitor the following metals: Total Recoverable Lead, Total Recoverable Copper, Total Recoverable Cadmium, and Total Recoverable Zinc once per permit cycle at the seven watershed sites.
4. LFUCG shall maintain the continuous monitoring network at one location per year on a rotating basis. Monitoring shall be for the following parameters – flow, pH, dissolved oxygen, temperature, and conductivity.
5. LFUCG shall begin to change its monitoring program to a watershed-focused monitoring program. In order to facilitate this process, monitoring should be conducted on a watershed basis with additional monitoring stations sampled for water chemistry, macroinvertebrates, microbial source tracking, hydrogeomorphic characterization, and habitat assessment. This monitoring program shall be submitted to the Division of Water within one year of the permit effective date.

Compliance with these terms is achieved by implementing the program elements, as shown in Table 8 ([Water Quality Monitoring](#)) in Section E of Part II, except where inconsistent with other provisions of this permit.

#### B. REPORTING REQUIREMENTS FOR THE MONITORING PROGRAM

1. The permittee shall submit a stormwater monitoring report annually on the same schedule as the annual report under Part III, Paragraph D of this permit. This report shall include:
  - a. Map(s) showing monitoring station locations and narrative site descriptions, including watershed size;
  - b. Raw data, results, methods of evaluating data, graphical summaries of the data, and an explanation/discussion of the data for each component of the monitoring program;
  - c. An analysis of the results of each monitoring program component;
  - d. All monitoring reports shall be submitted electronically.
2. In Year 5 of the permit, the Annual Report shall also include a comprehensive monitoring program assessment. This assessment shall include the following:
  - a. A trend analysis that shall evaluate the changes that have taken place in each of the watersheds during the permit cycle (Years 1 through 5); and

- b. An evaluation of the monitoring program, which shall be used to help formulate tasks and objectives for the next permit cycle.
3. Sampling methodology shall be according to the EPA stormwater application regulations at 40 CFR 122.26, (incorporated by reference, in Kentucky Regulations at 401 KAR 5:060, Section 8).
4. Analysis of parameters shall be conducted according to test procedures approved under 40 CFR 136 (incorporated by reference, in Kentucky Regulations at 401 KAR 5:060, Section 8), unless other test procedures have been specified.

Compliance with these terms is achieved by implementing the program elements in Tables 8 and 9 (**Water Quality Monitoring** and Reporting and Recordkeeping) in Section E of Part II, except where inconsistent with other provisions of this permit.

...

#### D. ANNUAL REPORTING REQUIREMENTS

The permittee shall prepare an annual system-wide report to be submitted no later than July 15<sup>th</sup> of the year following the period covered by the report. The annual report shall cover the period beginning on January 1 through December 31, 2015, and annually thereafter. The annual report shall include but not be limited to:

1. A summary of monitoring data accumulated during the report year (40 CFR 122.41, incorporated by reference, in Kentucky Regulations 401 KAR 5:065, Section 2)."

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Program Element Effectiveness:** The success of the **Water Quality Monitoring** program elements will be determined by comparing actual achievements to the measurable goals for each program element listed in this section.

## **MON 1 Pollution Prevention Program Assessment Data Collection**

### **Program Elements from KPDES Permit Table 8 Section MON 1:**

“The permittee shall conduct a dry weather monitoring program for bacteriologicals, conventional parameters, and nutrients at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.

“The permittee shall conduct a wet weather monitoring program for bacteriologicals, conventional parameters, and nutrients at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.

“The permittee shall conduct a macroinvertebrate sampling program at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.

“The permittee shall conduct a habitat assessment program at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.

“The permittee shall conduct a fish sampling program at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.

“The permittee shall submit a monitoring plan that incorporates, revised as needed; the sampling methods and procedures contained in the document entitled LFUCG Stormwater Quality Management Program SWQMP Appendix V Water Quality and Biological Sampling Plan dated February 11, 2011.

“The permittee shall maintain its program of continuous monitoring at one location per year on a rotating basis.

“The permittee shall compile all sampling field data and laboratory results in a database, putting results on website and in the Annual Report.

“The permittee shall conduct one dry weather and one wet weather monitoring for the following metals: Total Recoverable Lead, Total Recoverable Copper, Total Recoverable Cadmium, Total Recoverable Zinc at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.

“The permittee shall begin to refocus its monitoring program to a watershed-focused monitoring program. In order to facilitate this process, monitoring should be conducted

on a watershed basis with additional monitoring stations sampled for water chemistry, macroinvertebrates, microbial source tracking, hydro-geomorphic characterization, and habitat assessment. Details about this monitoring program, with schedule and monitoring locations, shall be submitted to the Division of Water within one year from the permit date. Implementation shall commence by January 31<sup>st</sup> of the following year.”

**Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 8 Section MON 1. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table MON 1 – Pollution Prevention Program Assessment Data Collection**

**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Dry Weather Monitoring for Major Watersheds	MG-MON-01: Conduct a quarterly dry weather monitoring program for bacteriologicals, conventional parameters, and nutrients at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.	X	X	X	X	X	DWQ
Wet Weather Monitoring for Major Watersheds	MG-MON-02: Conduct a quarterly wet weather monitoring program for bacteriologicals, conventional parameters, and nutrients at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.	X	X	X	X	X	DWQ
Macroinvertebrate Sampling for Major Watersheds	MG-MON-03: Conduct an annual macroinvertebrate sampling program at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.	X	X	X	X	X	DWQ
Habitat Assessments for Major Watersheds	MG-MON-04: Conduct an annual habitat assessment program at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.	X	X	X	X	X	DWQ
Fish Sampling for Major Watersheds	MG-MON-05: Conduct a fish sampling program every other year at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.		X		X		DWQ
Monitoring Plan	MG-MON-06: Submit a monitoring plan by December 1, 2015, that incorporates, revised as needed, the sampling methods and procedures contained in the document entitled <u>LFUCG Stormwater Quality Management Program SWQMP Appendix V Water Quality and Biological Sampling Plan</u> dated February 11, 2011.	X					DWQ
Continuous Monitoring Network	MG-MON-07: Maintain the program of continuous monitoring at one location per year on a rotating basis.	X	X	X	X	X	DWQ
Database	MG-MON-08: Compile all sampling field data and laboratory results in a database, putting results on website and in the Annual Report.	X	X	X	X	X	DWQ

Dry Weather and Wet Weather Monitoring for Metals	MG-MON-09: Conduct one dry weather and one wet weather monitoring for the following metals: Total Recoverable Lead, Total Recoverable Copper, Total Recoverable Cadmium, and Total Recoverable Zinc at one location in each of the seven major urbanized watersheds: Town Branch, Wolf Run, South Elkhorn Creek, North Elkhorn Creek, Cane Run, West Hickman, and East Hickman.					X	DWQ
Watershed-Focused Monitoring Expansion	MG-MON-10: Develop a watershed-focused monitoring program within one year of the permit effective date, by which monitoring will be conducted on a watershed basis with additional monitoring stations sampled for water chemistry, macroinvertebrates, microbial source tracking, hydro-geomorphic characterization, and habitat assessment. The program will detail monitoring locations and a proposed schedule.	X					DWQ
	MG-MON-11: Implement the watershed-focused monitoring program.		X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Dry Weather Monitoring for Major Watersheds – provide report required by SWQMP Table MON 4.
2. Wet Weather Monitoring for Major Watersheds – provide report required by SWQMP Table MON 4.
3. Macroinvertebrate Sampling for Major Watersheds – provide report required by SWQMP Table MON 4.
4. Habitat Assessments for Major Watersheds – provide report required by SWQMP Table MON 4.
5. Fish Sampling for Major Watersheds – provide report required by SWQMP Table MON 4.
6. Monitoring Plan – provide plan.
7. Continuous Monitoring Network – provide report required by SWQMP Table MON 4.
8. Database – provide a link to the website required by SWQMP Table MON 2.
9. Dry Weather and Wet Weather Monitoring for Metals – provide report required by SWQMP Table MON 4.
10. Watershed-Focused Monitoring Expansion (develop program) – provide plan.
11. Watershed-Focused Monitoring Expansion (implement program) – provide monitoring report for each watershed following the year of focused monitoring.

## **MON 2 Public Education and Public Outreach**

### **Program Elements from KPDES Permit Table 8 Section MON 2:**

“The permittee shall maintain a program to make monitoring results available to the public.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 8 Section MON 2. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table MON 2 – Public Education and Public Outreach  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Sampling Results Posted to Website	MG-MON-12: Annually update the sampling and monitoring results on the website.	X	X	X	X	X	DES

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

12. Sampling Results Posted to Website – provide a link to the website.

## **MON 3 Education and Training**

### **Program Elements from KPDES Permit Table 8 Section MON 3:**

“The permittee shall conduct training for employees involved in the monitoring components of this permit.

“The permittee shall conduct audience surveys to measure attendance and evaluate the extent to which the target audience is being reached and ways to expand the training topics.

“The permittee shall conduct training for volunteers involved in the monitoring components of this program element.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 8 Section MON 3. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table MON 3 – Education and Training  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Employee Training	MG-MON-13: Conduct annual training for employees involved in the monitoring components of this permit.	X	X	X	X	X	DWQ
Evaluation of Training	MG-MON-14: Conduct audience surveys to measure attendance and evaluate the extent to which the target audience is being reached and ways to expand the training topics.	X	X	X	X	X	DWQ
Volunteer Training	MG-MON-15: Conduct training once every three years for volunteers involved in the monitoring components of this program element.			X			DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

13. Employee Training – provide a copy of the agenda, sign in sheets, and copies of any PowerPoint slides or handouts.
14. Evaluation of Training – provide copies of the evaluation form templates and a summary of the evaluation forms.
15. Volunteer Training – provide a copy of the agenda, sign in sheets, and copies of any PowerPoint slides or handouts.

## **MON 4 Evaluation**

### **Program Elements from KPDES Permit Table 8 Section MON 4:**

“The permittee shall provide a report of the monitoring results for each permit year in conjunction with the MS4 Annual Report.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 8 Section MON 4. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table MON 4 – Evaluation  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Compilation of Results	MG-MON-16: Develop a report of the monitoring results for each permit year in conjunction with the MS4 Annual Report.	X	X	X	X	X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

16. Compilation of Results – provide report.

## **MON 5 Trend Analysis Report**

### **Program Elements from KPDES Permit Table 8 Section MON 5:**

“The permittee shall conduct a comprehensive assessment and perform a trend analysis of changes in each watershed over the permit cycle in Year 5 of the permit to support long-term assessments of local waterways and program performance. Report analysis through the “Trend Analysis Report” at least once every permit cycle.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 8 Section MON 5. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table MON 5 – Trend Analysis Report**

**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Trend Analysis Report	MG-MON-17: Conduct a comprehensive assessment and perform a trend analysis of changes in each watershed over the permit cycle in Year 5 of the permit to support long-term assessments of local waterways and program performance. Report analysis through the "Trend Analysis Report" at least once every permit cycle.					X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

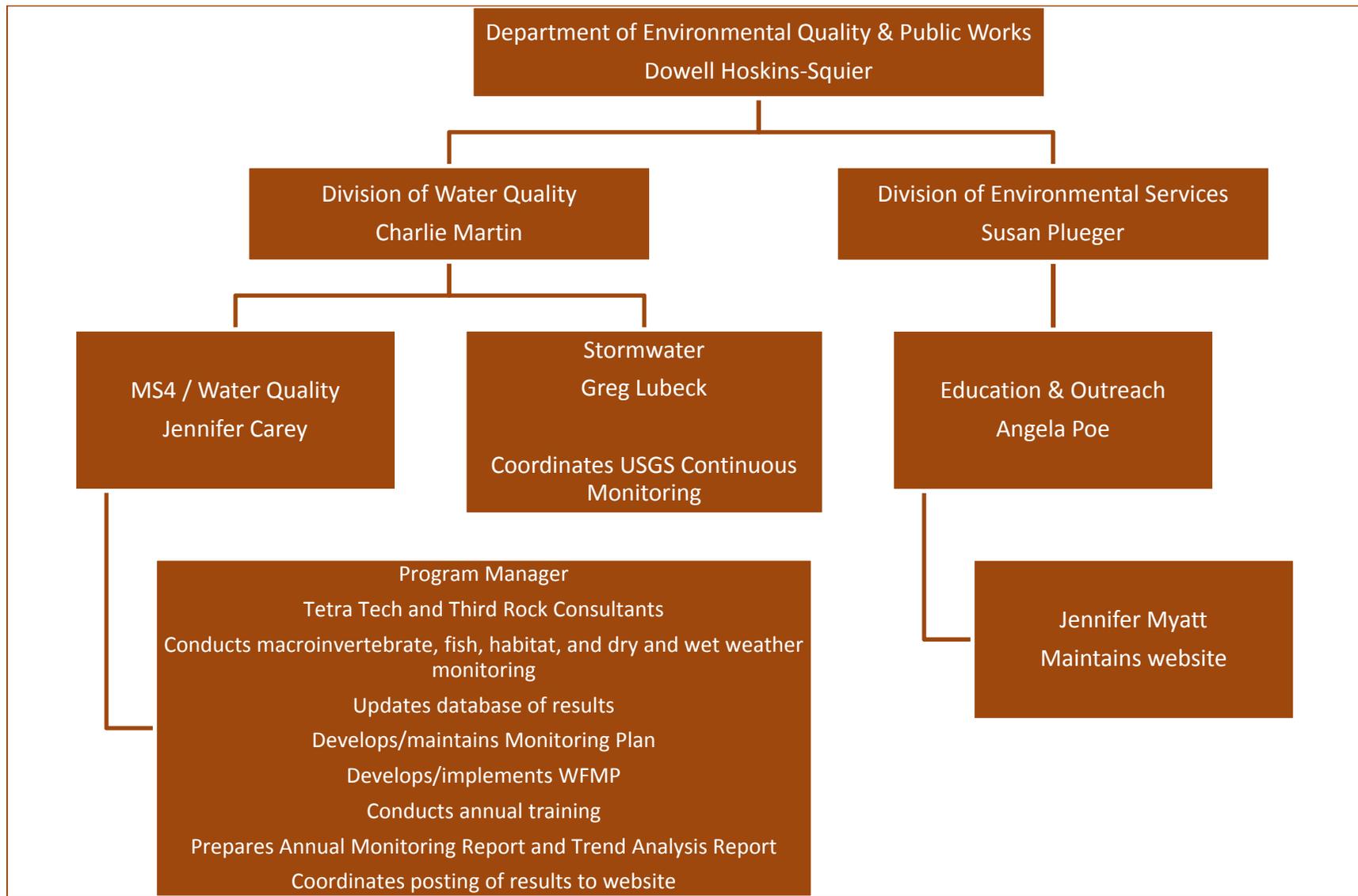
17. Trend Analysis Report – provide report.

## **Water Quality Monitoring Additional**

Although not a permit requirement, LFUCG intends to complete the following during this permit cycle:

LFUCG plans to pursue the development of watershed based plans for the urbanized portion of each watershed in Fayette County. Ideally, the plan development will commence in the year following the intensive data collection completed by watershed as part of the Watershed-Focused Monitoring Program. LFUCG will look for partnerships with other entities who have interests in the rural areas of the watersheds and who have interests in the portions of the watersheds in downstream counties in order to aid in developing complete watershed based plans.

## Water Quality Monitoring – Organization Chart by Department and Division



# Reporting and Recordkeeping

## RR 1 Reporting and Recordkeeping

## Reporting and Recordkeeping (RR)

**KPDES Permit Table 9 Objective:** “The objective is to document all the reporting and recordkeeping requirements of the permit. The permittee is required to document and report the requirements of the permit and report annually to the permitting authority (KDOW). The Annual Report is required under 40 CFR 122.42 (c).”

### **KPDES Permit Narrative from Part III:**

#### “D. ANNUAL REPORTING REQUIREMENTS

The permittee shall prepare an annual system-wide report to be submitted no later than July 15<sup>th</sup> of the year following the period covered by the report. The annual report shall cover the period beginning on January 1 through December 31, 2015, and annually thereafter. The annual report shall include but not be limited to:

1. A summary of monitoring data accumulated during the report year (40 CFR 122.41, incorporated by reference, in Kentucky Regulations 401 KAR 5:065, Section 2).
2. An overall evaluation of the SWQMP developments and progress including: major findings such as water quality improvements or degradation, major accomplishments, overall program strengths/weaknesses; and future direction of the program. The permittee shall make an overall determination of the effectiveness of the SWQMP taking into account water quality/watershed improvements.
3. Brief discussion of the program elements listed in Tables 1-9 following applicable SWQMP elements.
4. Status of the implementation and proposed changes to the SWQMP to include assessment of controls and specific improvements or degradation to water quality.
5. Summary of inspections and enforcement actions for regulatory programs.
6. Status of the public education program, including success stories.
7. Status of expenditures and budget for the present year and the next permit year.
8. The permittee shall submit the original annual report to:

Kentucky Division of Water  
Surface Water Permits Branch  
200 Fair Oaks Lane, 4th Floor  
Frankfort, Kentucky 40601.”

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Program Element Effectiveness:** The success of the [Reporting and Recordkeeping](#) program elements will be determined by comparing actual achievements to the measurable goals for each program element listed in this section.

## **RR 1 Reporting and Recordkeeping**

### **Program Elements from KPDES Permit Table 9 Section RR 1:**

“The permittee shall prepare an annual report and submit in accordance with the schedule in Part III D of the permit.

“The permittee shall maintain records for a period of five years.”

### **Measurable Goals to Achieve the Program Elements:**

The following table lists the measurable goals to achieve the program elements listed in KPDES Permit Table 9 Section RR 1. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table RR 1 – Reporting and Recordkeeping  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Reporting	MG-RR-01: Prepare and submit the MS4 Annual Report by July 15 of each year for the previous calendar year.	X	X	X	X	X	DWQ
Recordkeeping	MG-RR-02: Maintain records showing compliance with the permit for a period of five years.	X	X	X	X	X	DCS

**Performance Standards from Consent Decree**

Element Task/Activity/BMP	Performance Standard	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Annual Report	PS-RR-3: Complete the Annual Report each year in accordance with the schedule in the applicable KPDES Permit.	*	*	*	*	*	DWQ

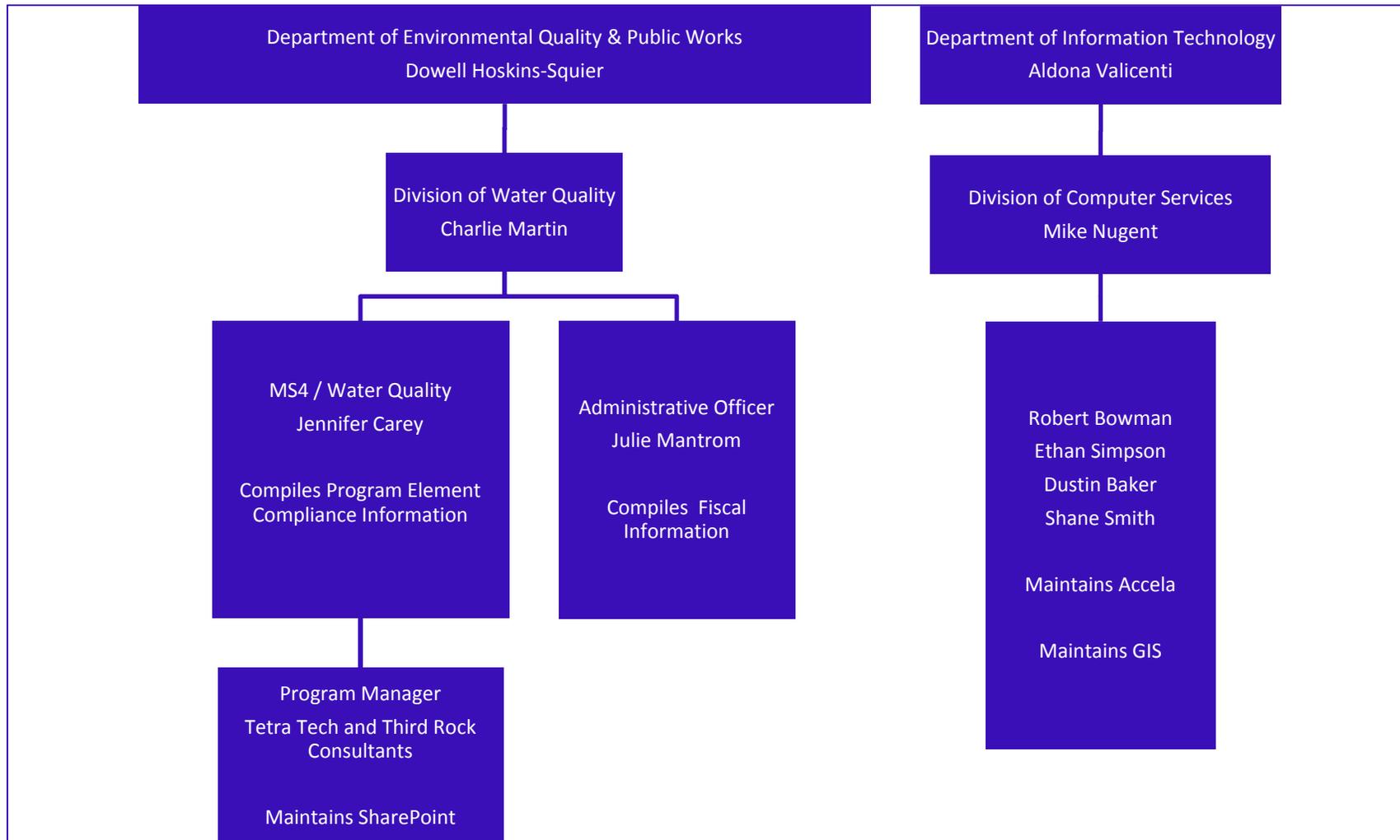
\*The Performance Standards will continue to be completed until the parties to the Consent Decree determine that the compliance measures related to the storm sewer system have been satisfied.  
 Note: For ease of reference, the Performance Standards in the table above are numbered the same as the ones in Appendix E of the Consent Decree.

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table.

1. Reporting / PS-RR-3 – complete and submit the MS4 Annual Report.
2. Recordkeeping – KDOW may review permit compliance records upon request.

# Reporting and Recordkeeping – Organization Chart by Department and Division



# Total Maximum Daily Loads and Impaired Waters

TMDL 1 Approach to Achieving Assigned Wasteload Allocations  
IW 1 Approach to Minimizing Pollutants of Concern to Impaired  
Waters

## Total Maximum Daily Loads and Impaired Waters

### KPDES Permit Narrative from Part II:

#### “1. Total Maximum Daily Loads (TMDLs)

The requirements of this section apply only to the permittee's MS4 discharges to receiving waters with adopted or established TMDLs and associated allocations. It is the intent of this section to ensure that pollutant discharges for those parameters listed in the TMDL are reduced to the MEP through the implementation of the permittee's SWQMP. The permittee shall make progress toward achieving assigned wasteload allocations (WLAs) by demonstrating through the implementation of structural and nonstructural best management practices and other program activities that are targeted at TMDL-related pollutants within watersheds that discharge to a waterbody with an adopted TMDL. If a TMDL is approved for any impaired waterbody into which discharges from the MS4 cause or contribute to water quality impairment(s), KDOW will review the TMDL and applicable wasteload allocation(s) to determine whether the TMDL includes requirements for control of stormwater discharges. If current discharges from the MS4 are not meeting TMDL allocations, KDOW will notify the permittee of that finding and may require that the SWQMP identified in Part II be modified, in accordance with Part III.F. of this permit relating to Reopening the Permit for major modifications, to include any applicable and appropriate BMPs to implement the TMDL within a reasonable timeframe.

#### 2. Evaluation of TMDL Allocations.

After establishment of an approved TMDL for a pollutant of concern in the permittee's stormwater discharges during this permit term, the permittee shall identify the impaired stream segment(s) and/or tributaries to those impaired stream segments and the location of all known MS4 major outfalls discharging a pollutant of concern under the TMDL to those segments or occurring within those segments. The permittee shall evaluate the discharge load associated with the identified MS4 major outfalls for the pollutant, including monitoring, reporting and/or otherwise, at issue. Prior to any reopening of this permit under paragraph D.1. above, the permittee shall consider and propose applicable and appropriate Best Management Practices for its MS4 to reach the wasteload goal of the TMDL, and a schedule of implementation for those Best Management Practices. Nothing herein shall prevent the permittee from pursuing a variance or exceptions based upon a use attainability analysis or the criteria for exceptions set forth in 401 KAR 10:031. Applicable limitations, conditions and requirements contained in the TMDL are also to be addressed in the SWQMP.

#### 3. Impaired Water Bodies.

For impaired waters that lack a TMDL, the permittee shall evaluate its Best Management Practices in the SWQMP with respect to any new or expanded MS4 discharges for pollutants of concern that substantially change the discharge to impaired

waterbodies listed on the Clean Water Act Section 303(d) list in the Division of Water publication entitled, "2012 Integrated Report to Congress on the Condition of Water Resources in Kentucky Volume II. 303(d) List of Surface Waters" to assess their effectiveness in minimizing pollution to such impaired waterbodies. The evaluation of BMPs may be conducted on a watershed basis or on a point source basis for newly proposed or expanded discharges. For those waters designated as impaired on the 303(d) list that the MS4 discharges into, the permittee shall monitor the impaired waters for those pollutants attributed to stormwater sources for at least 3 storm events during the permit term. Based upon its evaluation, the permittee shall modify its SWQMP as necessary and appropriate to improve the effectiveness of the BMPs."

**Responsibility for Implementation and Compliance:** The organization chart at the end of this section indicates the current LFUCG Departments, Divisions, and staff responsible for the implementation of this program and for the compliance with the permit requirements pertaining to this program.

**Permit Effectiveness:** The success of the **Total Maximum Daily Loads and Impaired Waters** section will be determined by comparing actual achievements to the measurable goals for each item listed in this section.

## **TMDL 1 Approach to Achieving Assigned Wasteload Allocations**

### **Directives from KPDES Permit Narrative from Part II:**

The permit narrative contains directives on how pollutant reductions and attainment of TMDL wasteload allocations from the MS4 are to be achieved.

“The permittee shall make progress toward achieving assigned wasteload allocations (WLAs) by demonstrating through the implementation of structural and nonstructural best management practices and other program activities that are targeted at TMDL-related pollutants within watersheds that discharge to a waterbody with an adopted TMDL.

“After establishment of an approved TMDL for a pollutant of concern in the permittee’s stormwater discharges during this permit term, the permittee shall identify the impaired stream segment(s) and/or tributaries to those impaired stream segments and the location of all known MS4 major outfalls discharging a pollutant of concern under the TMDL to those segments or occurring within those segments.

“The permittee shall evaluate the discharge load associated with the identified MS4 major outfalls for the pollutant, including monitoring, reporting and/or otherwise, at issue.

“...the permittee shall consider and propose applicable and appropriate Best Management Practices for its MS4 to reach the wasteload goal of the TMDL, and a schedule of implementation for those Best Management Practices.

“Nothing herein shall prevent the permittee from pursuing a variance or exceptions based upon a use attainability analysis or the criteria for exceptions set forth in 401 KAR 10:031.”

### **Measurable Goals to Achieve the Directives:**

The following table lists the measurable goals to achieve the directives listed in KPDES Permit Narrative. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table TMDL 1 – Approach to Achieving Assigned Wasteload Allocations**  
**Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Identify Impaired Stream Segments and the Location of All Known MS4 Major Outfalls Discharging a Pollutant of Concern Under the TMDL	MG-TMDL-01: Update maps of Fayette County waters, showing impaired reaches and MS4 Major Outfalls.	X					DCS
	MG-TMDL-02: Update tables of Fayette County waters with impairment, TMDL, stream reach details, and causes and sources of pollutants of concern.	X					DWQ
	MG-TMDL-03: Collect summary data of MS4 Major Outfall monitoring via Dry Weather Screening and/or the Watershed-Focused Monitoring Program (WFMP), showing annual pollutant concentrations trends.		X	X	X	X	DWQ
Evaluate the Discharge Load Associated with the Identified MS4 Major Outfalls for TMDL-Related Pollutants	MG-TMDL-04: Identify major pollutant sources and their relative significance to impairment, and characterize pollutant loads contributing to impairments in TMDL reaches. Conduct in Year 1 and reevaluate in Year 5.	X				X	DWQ
	MG-TMDL-05: Detailed evaluations of pollutant loads for MS4 Major Outfalls in stream reaches with TMDLs (follow WFMP schedule).				X	X	DWQ
Identify BMPs for TMDL Pollutants with a WLA and a Schedule of Implementation	MG-TMDL-06: Prepare a prioritized list of near term (1-5 year) BMPs with implementation information, including schedule.				X	X	DWQ
	MG-TMDL-07: Implement BMPs following the schedule.					X	DWQ
Document Progress Toward Achieving Assigned WLAs by Demonstrating Through the Implementation of BMPs and Other Program Activities that are Targeted at TMDL-Related Pollutants	MG-TMDL-08: Estimate the pollutant load reductions achieved with the implemented BMPs and other programs activities.					X	DWQ
	MG-TMDL-09: If needed, identify additional applicable and appropriate BMPs that may be needed to achieve further pollutant load reductions that meet the TMDLs as WFMP data becomes available.					X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Identify Impaired Stream Segments and the Location of All Known MS4 Major Outfalls Discharging a Pollutant of Concern Under the TMDL – provide the updated maps in Year 1.
2. Identify Impaired Stream Segments and the Location of All Known MS4 Major Outfalls Discharging a Pollutant of Concern Under the TMDL – provide the updated tables in Year 1.
3. Identify Impaired Stream Segments and the Location of All Known MS4 Major Outfalls Discharging a Pollutant of Concern Under the TMDL – provide the summary data showing annual pollutant concentration trends in Years 2-5.
4. Evaluate the Discharge Load Associated with the Identified MS4 Major Outfalls for TMDL-Related Pollutants – provide major pollutant sources, relative significance to impairment, and characterization of pollutant loads in Years 1 and 5.
5. Evaluate the Discharge Load Associated with the Identified MS4 Major Outfalls for TMDL-Related Pollutants – provide detailed evaluations of pollutant loads in Years 4-5.
6. Identify BMPs for TMDL Pollutants with a WLA and a Schedule of Implementation – provide the prioritized list of BMPs and schedule in Years 4-5.
7. Identify BMPs for TMDL Pollutants with a WLA and a Schedule of Implementation – provide documentation of BMP implementation in Year 5.
8. Document Progress Toward Achieving Assigned WLAs by Demonstrating Through the Implementation of BMPs and Other Program Activities that are Targeted at TMDL-Related Pollutants – provide the estimated pollutant load reductions in Year 5.
9. Document Progress Toward Achieving Assigned WLAs by Demonstrating Through the Implementation of BMPs and Other Program Activities that are Targeted at TMDL-Related Pollutants – provide a list of additional appropriate and applicable BMPs, if needed as WFMP data becomes available, in Year 5.

## **IW 1 Approach to Minimizing Pollutants of Concern to Impaired Waters**

### **Directives from KPDES Permit Narrative from Part II:**

The permit narrative contains directives on how pollutants of concern for new or expanded MS4 discharges are to be minimized for impaired waterbodies.

“For impaired waters that lack a TMDL, the permittee shall evaluate its Best Management Practices in the SWQMP with respect to any new or expanded MS4 discharges for pollutants of concern that substantially change the discharge to impaired waterbodies listed on the Clean Water Act Section 303(d) list in the Division of Water publication entitled, “2012 Integrated Report to Congress on the Condition of Water Resources in Kentucky Volume II. 303(d) List of Surface Waters” to assess their effectiveness in minimizing pollution to such impaired waterbodies.

“For those waters designated as impaired on the 303(d) list that the MS4 discharges into, the permittee shall monitor the impaired waters for those pollutants attributed to stormwater sources for at least 3 storm events during the permit term.

“Based upon its evaluation, the permittee shall modify its SWQMP as necessary and appropriate to improve the effectiveness of the BMPs.”

### **Measurable Goals to Achieve the Directives:**

The following table lists the measurable goals to achieve the directives listed in KPDES Permit Narrative. The following table also includes the deadline and/or frequency for completing the measurable goal, along with the division of LFUCG responsible for ensuring its completion.

**SWQMP Table IW 1 – Approach to Minimizing Pollutants of Concern to Impaired Waters  
Measurable Goals**

Element Task/Activity/BMP	Measurable Goal	Deadline / Frequency (permit year)					Responsible Division
		1	2	3	4	5	
Evaluate BMPs in the SWQMP With Respect to New or Expanded MS4 Discharges	MG-IW-01: Develop procedures for ensuring that post-construction stormwater discharges do not cause or worsen impairment of receiving waters (See update of the Stormwater Manual).		X				DWQ
	MG-IW-02: Incorporate the procedures into post-construction stormwater management requirements for new development and redevelopment (See update of the Stormwater Manual).			X	X	X	DWQ
Monitor the Impaired Waters for Those Pollutants Attributed to Stormwater Sources	MG-IW-03: Identify the waters and pollutants in need of monitoring.	X					DWQ
	MG-IW-04: Conduct storm event monitoring.				X		DWQ
	MG-IW-05: Summary report on storm event monitoring.					X	DWQ
Modify the SWQMP As Necessary and Appropriate to Improve the Effectiveness of the BMPs	MG-IW-06: Develop BMP evaluation methods.				X		DWQ
	MG-IW-07: Monitor BMPs.					X	DWQ
	MG-IW-08: Suggest SWQMP modifications, as needed.					X	DWQ

**Measurable Goal Evidence of Completion:**

The following list shows the acceptable documentation to substantiate the completion of each measurable goal from the preceding SWQMP Table. These items will be included in the MS4 Annual Report for the applicable permit year.

1. Evaluate BMPs in the SWQMP With Respect to New or Expanded Discharges – provide a copy of the procedures in Year 2.
2. Evaluate BMPs in the SWQMP With Respect to New or Expanded Discharges – provide a copy of the Stormwater Manual with the updated procedures included in Year 3.
3. Monitor the Impaired Waters for Those Pollutants Attributed to Stormwater Sources – provide a list of the waters and pollutants needing monitoring in Year 1.
4. Monitor the Impaired Waters for Those Pollutants Attributed to Stormwater Sources – provide the raw monitoring and lab results in Year 4.
5. Monitor the Impaired Waters for Those Pollutants Attributed to Stormwater Sources – provide the summary report on monitoring in Year 5.
6. Modify the SWQMP As Necessary and Appropriate to Improve the Effectiveness of the BMPs – provide a copy of the BMP evaluation methods in Year 4.
7. Modify the SWQMP As Necessary and Appropriate to Improve the Effectiveness of the BMPs – provide a copy of the raw monitoring and lab results in Year 5.
8. Modify the SWQMP As Necessary and Appropriate to Improve the Effectiveness of the BMPs – provide a copy of the SWQMP modifications, as needed, in Year 5.

# Total Maximum Daily Loads and Impaired Waters – Organization Chart by Department and Division

