



Storm Water Quality Management Plan

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Section I. Acronyms

1. “APR” is an acronym for Additional Permit Requirement.
2. “BMPs” is an acronym for Best Management Practices.
3. “CFR” is an acronym for Code of Federal Regulations.
4. “CPMD” is an acronym for Capital Project Management.
5. “CWA” is an acronym for Clean Water Act.
6. “EHS” is an acronym for Environmental Health and Safety.
7. “EMD” is an acronym for Environmental Management Department.
8. “EPA” is an acronym for Environmental Protection Agency.
9. “FIS” is an acronym for Facilities Information Services.
10. “FO” is an acronym for Facility Operations.
11. “GIS” is an acronym for Geographic Information System.
12. “IDDE” is an acronym for Illicit Discharge Detection and Elimination program element.
13. “KAR” is an acronym for Kentucky Administrative Regulations.
14. “KDOW” is an acronym for Kentucky Division of Water.
15. “KPDES” is an acronym for Kentucky Pollutant Discharge Elimination System.
16. “KRS” is an acronym for Kentucky Revised Statutes.
17. “LFUCG” is an acronym for Lexington-Fayette Urban County Government.
18. “MEP” is an acronym for Maximum Extent Practicable.
19. “MG” is an acronym for Measurable Goal.
20. “MON” is an acronym for Water Quality Monitoring program event.
21. “MS4” is an acronym for Municipal Separate Storm Sewer System.
22. “NPDES” is an acronym for National Pollutant Discharge Elimination System.
23. “QA/QC” is an acronym for Quality Assurance and Quality Control.
24. “SSAC” is an acronym for Stormwater Stakeholder Advisory Committee.

25. "SWQMP" is an acronym for Storm Water Quality Management Program.
26. "SWPPP" is an acronym for Storm Water Pollution Prevention Plan.
27. "TFISE" is an acronym for Tracy Farmer Institute for Sustainability and the Environment.
28. "TMDL" is an acronym for Total Maximum Daily Load.

Section II. Community Background

Founded in 1865 as a land-grant institution located just south of downtown Lexington, The University of Kentucky (UK) is nestled in the scenic heart of the beautiful Bluegrass Region of Kentucky on an approximately 824-acre campus. From its early beginnings, with only 190 students and 10 professors, UK is now home to more than 31,000 students and approximately 16,000 employees. UK is one of a small number of universities in the United States that has programs in agriculture, engineering, a full complement of health colleges including medicine and pharmacy, law, and fine arts on a single campus. UK consists of 17 academic and professional colleges where students can choose from more than 200 majors and degree programs at the undergraduate and graduate levels. The colleges are Agriculture, Food and Environment; Arts and Sciences; Business and Economics; Communication and Information; Dentistry; Design; Education; Engineering; Fine Arts; Graduate School; Health Sciences; Law; Medicine; Nursing; Pharmacy; Public Health; and Social Work.

Primary activities at UK include research, teaching, health care, athletics, dining service, student housing, facilities management, and off-campus agricultural research. Operations are conducted in various buildings scattered throughout campus. The buildings are surrounded mostly by urban residential and commercial properties. In addition, some industrial sites are located in UK's vicinity. Significant streets connecting campus to downtown Lexington include Woodland Avenue, Rose Street, Limestone Street/Nicholasville Road, Martin Luther King Boulevard, and Broadway Road. Limestone/Nicholasville Road is the most prominent street corridor through campus with major campus cross streets intersecting Limestone Street/Nicholasville Road including Alumni drive, Cooper Drive, Virginia Avenue/Huguelet Drive, Euclid Avenue/Avenue of Champions, and Maxwell Street. The Newtown Pike extension will become a significant campus gateway in the future.

Since 2012, UK's main campus has undergone a period of rapid construction and growth. During this time, an excess of \$2 billion has been invested in improvements to housing, research, and academic infrastructure. These improvements have encompassed more than six million square feet and 125 separate projects. As a result of these projects, there has been a vast transformation across campus and stormwater infrastructure has been part of that transformation. One of these projects, the \$12,000,000 FEMA Flood Mitigation Project (near Alumni Drive in the Wolf Run watershed) involved the modification of seven detention basins, the installation of 9.3-acre feet of underground detention, a stream restoration, and the installation of numerous additional BMP's. The FEMA Mitigation Project combined with the other campus-wide projects contributed to a 100% increase in the number of installed Post-Construction BMP's during the past MS4 permit period (2010 – 2018).

Section III. Local Water Resources

UK's MS4 permitted area drains to the tributaries of three different streams (Town Branch, Wolf Run, and West Hickman Creek) as well as several karst features. Town Branch and Wolf Run both drain to South Elkhorn Creek. West Hickman Creek drains to the larger Hickman Creek watershed. All of these streams are within the Kentucky River Basin (HUC 5100205).

UK's permitted area has been divided into seven primary subwatersheds: two subwatersheds drain to West Hickman, three drain to Wolf Run, and two drain to karst features or Town Branch (see MS4 Map Exhibit Sec. III.I). There are only two streams located within the MS4 boundary: Big Elm Fork (sometimes referred to as an Unnamed Tributary to Vaughn's Branch), which is a tributary to Wolf Run, and an unnamed tributary to West Hickman.

Based on the KDOW 2016 303(d) list, segments of all three of the above-mentioned streams (along with many of their tributaries) are impaired. The impairments are included in the charts below:

2016 303d List of Town Branch Impairments:

Waterbody & Segment	Designated Use(s)	Pollutant	Suspected Sources
Town Branch 0.0 to 9.2	Warm Water Aquatic Habitat	Organic Enrichment (Sewage) Biological Indicators	Municipal Point Source Discharges
Town Branch 0.0 to 9.2	Warm Water Aquatic Habitat	Specific Conductance	Agriculture, Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Town Branch 0.0 to 9.2	Warm Water Aquatic Habitat	Nutrient/Eutrophication Biological Indicators	Agriculture, Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Town Branch 9.2 to 10.8	Warm Water Aquatic Habitat	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	Warm Water Aquatic Habitat	Organic Enrichment (Sewage) Biological Indicators	Loss of Riparian Habitat, Municipal Point Source Discharges, Urban Runoff/Storm Sewers
Town Branch 9.2 to 10.8	Warm Water Aquatic Habitat	Sedimentation/Siltation	Loss of Riparian Habitat, Municipal (Urbanized High Density Area)
Town Branch 9.2 to 10.8	Warm Water Aquatic Habitat	Specific Conductance	Loss of Riparian Habitat, Municipal (Urbanized High Density Area), Municipal Point Source Discharges
Town Branch 10.8 to 12.4	Warm Water Aquatic Habitat	Sedimentation/Siltation	Loss of Riparian Habitat, Municipal (Urbanized High Density Area), Non-Point Source
Town Branch 10.8 to 12.4	Warm Water Aquatic Habitat	Specific Conductance	Loss of Riparian Habitat, Municipal (Urbanized High Density Area), Non-Point Source
Town Branch 10.8 to 12.4	Warm Water Aquatic Habitat	Nutrient/Eutrophication Biological Indicators	Loss of Riparian Habitat, Municipal (Urbanized High Density Area), Non-Point Source

2016 303d List Wolf Run Impairments

Waterbody & Segment	Designated Use(s)	Pollutant	Suspected Sources
Wolf Run 0.0 to 4.3	Warm Water Aquatic Habitat	Nutrient/Eutrophication Biological Indicators	Channelization, Loss of Riparian Habitat, Unspecified Urban Stormwater, Urban Runoff/Storm Sewers
Wolf Run 0.0 to 4.3	Warm Water Aquatic Habitat	Specific Conductance	Channelization, Unspecified Urban Stormwater, Urban Runoff/Storm Sewers Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

2016 303d List West Hickman Impairments

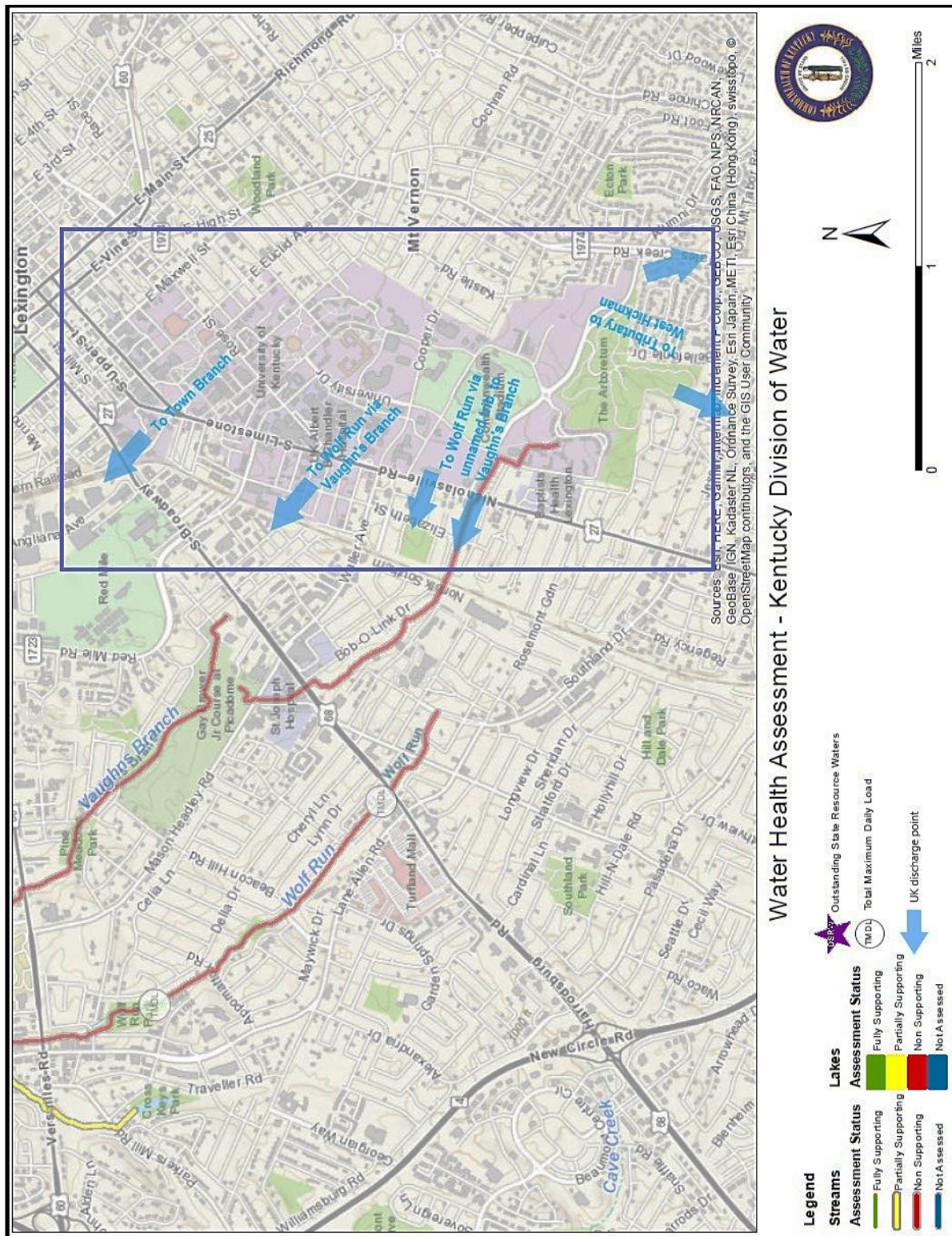
Waterbody & Segment	Designated Use(s)	Pollutant	Suspected Sources
West Hickman Creek 0.0 to 3.1	Warm Water Aquatic Habitat	Nutrient/Eutrophication Biological Indicators	Unspecified Urban Stormwater
West Hickman Creek 0.0 to 3.1	Warm Water Aquatic Habitat	Organic Enrichment (Sewage) Biological Indicators	Municipal Point Source Discharges, Unspecified Urban Stormwater
West Hickman Creek 0.0 to 3.1	Primary Contact Recreation	Fecal Coliform	Municipal Point Source Discharges, Unspecified Urban Stormwater
West Hickman Creek 3.1 to 8.4	Primary Contact Recreation	Fecal Coliform	Unspecified Urban Stormwater, Urban Runoff/Storm Sewers
West Hickman Creek 3.1 to 8.4	Warm Water Aquatic Habitat	Nutrient/Eutrophication Biological Indicators	Residential Districts, Unspecified Urban Stormwater
West Hickman Creek 3.1 to 8.4	Warm Water Aquatic Habitat	Organic Enrichment (Sewage) Biological Indicators	Residential Districts, Unspecified Urban Stormwater
West Hickman Creek 3.1 to 8.4	Warm Water Aquatic Habitat	Sedimentation/Siltation	Residential Districts
West Hickman Creek 3.1 to 8.4	Warm Water Aquatic Habitat	Specific Conductance	Residential Districts

2016 303d List Vaughn's Branch Impairments

Waterbody & Segment	Designated Use(s)	Pollutant	Suspected Sources
UT of Vaughn's Branch 0.0 to 1.85	Secondary Contact Recreation	Fecal Coliform	Loss of Riparian Habitat, Non-Point Source, Urban Runoff/Storm Sewers
UT of Vaughn's Branch 0.0 to 1.85	Primary Contact Recreation	Escherichia coli	Loss of Riparian Habitat, Non-Point Source, Urban Runoff/Storm Sewers
UT of Vaughn's Branch 0.0 to 1.85	Warm Water Aquatic Habitat	Specific Conductance	Loss of Riparian Habitat, Non-Point Source, Urban Runoff/Storm Sewers
Vaughn's Branch 0.0 to 2.2	Warm Water Aquatic Habitat	Specific Conductance	Loss of Riparian Habitat, Non-Point Source, Urban Runoff/Storm Sewers, Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)
Vaughn's Branch 0.0 to 2.2	Primary Contact Recreation	Escherichia coli	Loss of Riparian Habitat, Non-Point Source, Urban Runoff/Storm Sewers, Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)
Vaughn's Branch 0.0 to 2.2	Secondary Contact Recreation	Fecal Coliform	Loss of Riparian Habitat, Non-Point Source, Urban Runoff/Storm Sewers, Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

None of these impaired stream segments or tributaries are within UK's boundary with the exception of Big Elm Fork (listed as an unnamed tributary to Vaughn's Branch). The image on the following page from the Kentucky Water Health Portal has been amended to show UK's campus (surrounded in blue) and its discharge points, along with the impaired stream segments in the surrounding area (in red).

Exhibit Sec. III.I - Impaired streams in or near the University of Kentucky MS4

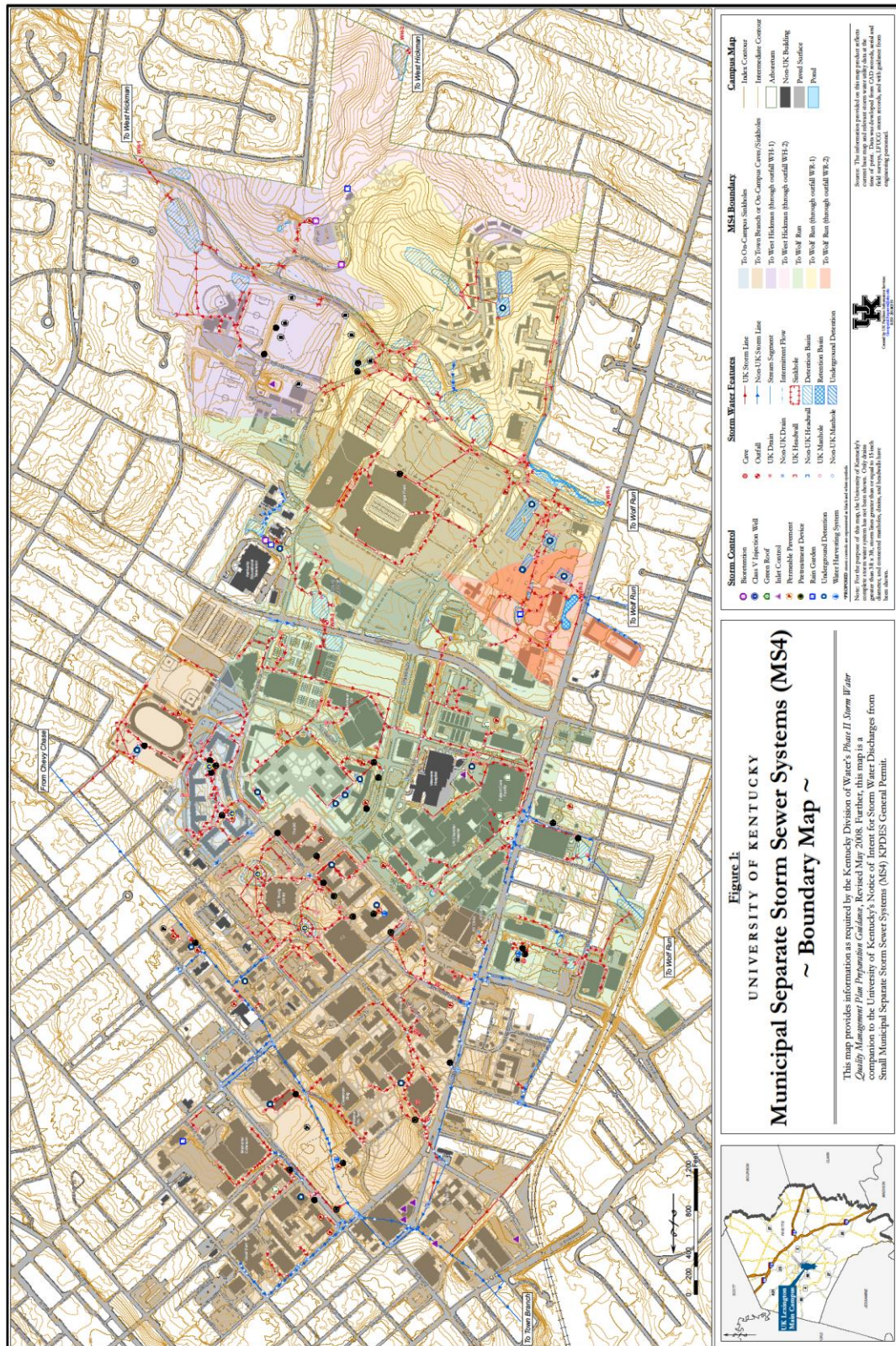


Newly listed in 2016, a reach of Big Elm Fork that begins at the outlet of the Greg Page Apartment Complex underground detention basin and continues to the WR-1 Outfall at the corner of Alumni Drive and Nicholasville Road, does not support aquatic life and partially supports swimming, fishing, wading, and boating due to specific conductance, E.coli, and Fecal Coliform impairments. The data used to make this determination was collected in 2011 and 2012. Important to note since the time of sample collection, the entire watershed has undergone a major redesign due to the efforts of the FEMA Flood Mitigation Project as well as a realignment of Alumni Drive. In the late fall of 2016, an illicit discharge from this watershed was discovered at a stormwater sewer outfall. An investigation determined an adjacent sanitary sewer in the Shawnee Town area had multiple failures and was leaching into the stormwater sewer system. Corrective measures were undertaken in 2017 and this illicit discharge was eliminated. Since that time, follow-up sampling has shown a sharp decrease in E.coli concentrations, even though indicator numbers remain above the water quality standard. UK has continued to investigate and identify other sources of contamination in 2018. Ongoing remediation measures include repair or replacement of sewer pipe and the lining of sanitary sewer brick manholes.

Even as the recent 2016 303(d) report has added additional reaches of impaired waterways, there are no TMDL's associated directly with the two stream segments within UK's MS4. The only approved TMDL to waters potentially affected by discharges from UK is the South Elkhorn Creek Fecal Coliform and E.coli TMDL. The stream segments associated with UK and covered by this document include section 0.0 to 4.4 of Wolf Run Creek and section 10.8 to 12.1 of Town Branch Creek. These stream segments are not located within the boundary of UK's MS4, however, UK is located within the overall watershed represented by the TMDL.

According to the 2016 Integrated Report, TMDL's planned for public notice in FY2019 include the Unnamed Tributary of Vaughn's Branch 0.0 to 1.85. This TMDL will be developed for Fecal Coliform and E.coli. With the headwaters to this stream located on campus, the impairment and subsequent TMDL development may require UK to address the TMDL in its Stormwater Quality Management Plan. Any updates to the plan regarding this TMDL will be made during the next permit cycle as directed by the DOW (Part II. D. of the Small MS4 General Permit). This may also include a monitoring program designed to evaluate the effectiveness of BMP's installed to address the TMDL.

Section IV. Map of the Permit Area



The following sections provide a framework UK will follow in order to maintain compliance with the 2018-2023 Small Municipal Separate Storm Sewer System (MS4) Permit No. KYG20. This framework consists of tasks, responsible parties for oversight, measurable goals, and evidence of completion for each of the six minimum control measures (MCM) as well as the additional permit requirements (APR). Each MCM/APR subsection begins with a brief synopsis of the efforts made during the previous 2010-2018 permit cycle as well as an introduction of the efforts that are planned during the new permit cycle. These summaries are followed by an explanation of each MCM's/APR's objective as well as a list of tasks that will be completed during the permit cycle. These tasks describe the BMP's that will be implemented to address each specific MCM/APR. Each task is assigned an activity owner (the UK Department responsible for completion of the task) and a permit year in which the task will be completed. Tasks assigned over multiple permit years will either be completed during the final assigned year or are reoccurring tasks to be completed each year of the permit cycle. To aid in completion, each task is assigned measurable goals which are intended to gauge permit compliance, program effectiveness, and outline the specific actions that must take place for each task to be considered complete. As each task is finished, a record of the completion must be included in that year's MS4 annual report to show permit compliance. A list of specific items that must be submitted for this purpose has been provided under Evidence of Completion.

For quick reference purposes, the information in this SWQMP has been condensed into a table format that can be found at the end of the document.

Section V. Minimum Control Measures (MCM)

MCM 1 – Public Education and Outreach

During the 2010-2018 permit period, while a great deal of stormwater related research, programs, and activities occurred on UK grounds, capturing education and outreach efforts were conducted in an ad hoc reactive manner. The public education and outreach tasks outlined in the 2010-2015 SWQMP were basically accomplished. A stormwater website, associating with other education activities or events, a campus survey, and the basic education of staff, faculty, and contractors summarizes the general activities during the past permit. Many of the tasks associated with this MCM were assigned to a single department or an individual within that department. The goal of future task efforts associated with public education and outreach will be to develop a more proactive program and assign primary education and outreach responsibilities to the Tracy Farmer Institute for Sustainability and the Environment (TFISE) with the assistance of interns.

For this permit cycle, UK has outlined a budgeted and enhanced public education and outreach program. Building upon previous efforts, an emphasis has been placed on engaging other departments within the UK system to assist or perform the BMP tasks associated with the education/outreach of students, faculty, staff and visitors regarding storm water quality improvements. While management of the overall activities will remain with the UK Environmental Management Department, key responsibility will be assigned to TFISE. Additional task responsibilities will be shared by EHS, Athletics, Sustainability, Utilities, and Facilities Operations.

MCM 1 BMPs: The objective of this minimum control measure is to inform UK's MS4 community (staff, faculty, students and visitors) about their impact on water quality. UK has identified the following public education and outreach activities to be accomplished this permit cycle (i.e., within the first five years following the effective date of the MS4 permit).

1.A - Strengthen the Education, Outreach, and Participation Program

Activity Owner: EMD, TFISE

Schedule: Permit Years 1, 2

Measurable Goal:

- Develop a partnership with TFISE in year one to assist with education and outreach.
- Develop a budget for MCM's 1&2 in year one to determine operating constraints of the program.
- Develop MCM 1&2 program improvements in year one for education and outreach.
- Hire interns to assist TFISE in education/outreach activities by year two

Evidence of Completion:

- Provide an agreement between EMD and TFISE (MOU).
- Provide a copy of the operational budget for MCM 1&2.
- Provide a detailed outline of the program for MCM 1&2.
- Provide copies of internal final reports, presentations, data, etc.

1.B - Update and maintain stormwater website

Activity Owner: EMD, TFISE

Schedule: Permit Year 2

Measurable Goal:

- Redesigned the Stormwater website in concert with TFISE.
- Update the website on a routine basis.
- Document visits to website/page viewing with a trackable/analytics package.

Evidence of Completion:

- Document the website relaunch and note regular updates. Document the page traffic information.

1.B.1 - Develop an interactive MS4 Map

Activity Owner: EMD, FIS

Schedule: Permit Year 3

Measurable Goal:

- Create a map for inclusion on the website that provides detailed MS4 information above and beyond the existing 2D map. [Examples of information include: stormwater flow direction, watershed information, post construction BMP information (photos, descriptions, etc.)]
- Develop an interactive Story Map.

Evidence of Completion:

- Provide a link to the published map.

1.B.2 - Develop an illicit discharge reporting system

Activity Owner: EMD

Schedule: Permit Year 2

Measurable Goal:

- Create a mobile friendly illicit discharge reporting web feature that allows the user to take photos, provide comments, and send information to EMD with minimal effort.

Evidence of Completion:

- Provide a link to the operational website that includes access to the reporting system.
- Provide the number of complaints received through the website and copies of the submitted reports.

1.B.3 - Develop an educator resource page (in conjunction with task 1.C.3)

Activity Owner: TFISE

Schedule: Permit Year 3

Measurable Goal:

- Create a portion of the website to include stormwater resources for educators.
- Create content to include on the resource page.
- Develop notification to educators of availability once the resource page is completed.

Evidence of Completion:

- Provide a link to the resource page.
- Provide an access portal for educators to the created resource page.

1.B.4 - Develop and maintain social media sites focused on UK stormwater

Activity Owner: TFISE, EMD

Schedule: Permit Year 2

Measurable Goal:

- Begin utilizing existing social media accounts (Facebook, Twitter, etc.) to promote UK stormwater.
- Add account links to the UK Stormwater page.
- Regularly update sites with new content to keep information relevant.

Evidence of Completion:

- Provide links to social media accounts.

1.C - Develop and distribute public (faculty, staff, students, visitors) specific education materials

Activity Owner: TFISE

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Create education materials that specifically address how UK's public impacts and can protect stormwater.

Evidence of Completion:

- Provide a copy of the created materials, and numbers distributed.

1.C.1 - Extend program focus to visitors

Activity Owner: TFISE

Schedule: Permit Year 3

Measurable Goal:

- Identify ways in which visitors can impact stormwater and develop an awareness campaign to target those actions.

Evidence of Completion:

- Provide a copy of the awareness program items (pamphlets, signage, etc.).

1.C.1.a - Develop awareness materials to address illicit discharge prevention from tailgater RV's (No dumping of gray/black water holding tanks) – Coordinate with Task 8.A

Activity Owner: TFISE, Athletics, EMD, Transportation Services

Schedule: Permit Year 3

Measurable Goal:

- Develop awareness materials and coordinate distribution with annual parking pass/ticket sales.

Evidence of Completion:

- Provide copy of awareness materials and numbers distributed.

1.C.2 - Provide a mechanism for incorporating students in the stakeholder/planning process

Activity Owner: EMD, Sustainability, TFISE

Schedule: Permit Year 4

Measurable Goal:

- Create meeting/forum/platform for students to provide input on campus stormwater management decisions.

Evidence of Completion:

- Provide meeting dates, sign in sheets, meeting minutes, agendas, etc.

1.C.3 - Focus on pollutants impairing local waterways

Activity Owner: TFISE

Schedule: Permit Years 4 and 5

Measurable Goal:

- Create awareness materials that specifically address pollutants identified in the 303d list impairing local waters as well as existing TMDL's.
- Specify how those on campus can help reduce these problems.

Evidence of Completion:

- Provide a copy of materials created as well as numbers distributed.

1.C.4 - Create stormwater education materials for staff/extension use

Activity Owner: TFISE

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Create curriculum that can be used to educate UK public on their impacts to campus stormwater, MS4 requirements, and how they can help.

Evidence of Completion:

- Provide copies of any materials developed.

1.D - Participate in and/or facilitate special events / activities / joint sponsored events to increase stormwater awareness

Activity Owner: TFISE

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Facilitate/Participate in one event per semester (minimum) that focuses on the campus stormwater program.

Evidence of Completion:

- Provide information on the events (dates, times, sign in sheets, photos, agendas, etc.).

1.D.1 - Involve student organizations

Activity Owner: TFISE

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Work with student organizations to get participation in a minimum of one event/activity per year.
- Devise an incentive program to boost student participation.

Evidence of Completion:

- Provide the name of the special event/activity, the name of the student organization, sign in sheet/attendance numbers per activity, and photos.
- Provide a description of the incentive and the names of the qualifying groups.

1.E - Create stormwater awareness articles/posts/podcasts/videos for campus wide distribution (e.g. UKNow/Website/Kernel/Social Media/News Letters)**Activity Owner:** TFISE**Schedule:** Permit Years 2, 3, 4, and 5**Measurable Goal:**

- Develop and publish at least 1 article/post/podcast/ video per year.

Evidence of Completion:

- Provide a copy of the created items.

1.F - Update staff IDDE training and create a method to ensure training is conducted annually**Activity Owner:** EMD, TFISE**Schedule:** Permit Year 3**Measurable Goal:**

- Update staff training to make it more user friendly and relevant to campus activities.
- Integrate training into online training programs and routine staff meetings.

Evidence of Completion:

- Provide a copy of the training material.
- Provide sign-in sheets and online training records annually.

1.F.1 - Develop a short promotional video on the most frequent illicit discharges and how to report them**Activity Owner:** EMD, TFISE**Schedule:** Permit Year 4**Measurable Goal:**

- Develop video/videos that can be utilized to train staff as well as promote the illicit discharge program and stormwater protection to general campus audiences to be shared through targeted outreach, social media, and other outlets.

Evidence of Completion:

- Provide a copy of the completed video(s)/link(s) to access the information.
- Provide a distribution list/number of viewings, etc.

1.G - Update individual departmental stormwater training and improve delivery system/participation**Activity Owner:** EMD, TFISE, FO, Utilities, Athletics**Schedule:** Permit Years 3, 4, and 5**Measurable Goal:**

- Work to improve/develop department specific (FO, Athletics, Utilities) stormwater training. Include the training in an online format and in routine departmental trainings. Conduct on an annual basis (minimum).
- Expand training to areas such as grad students, outdoor labs, etc. that may impact stormwater.

Evidence of Completion:

- Provide a copy of the link(s) to the developed training materials.

1.H - Update and conduct a campus wide survey to determine the effectiveness of the Outreach & Education Program

Activity Owner: TFISE

Schedule: Permit Year 2

Measurable Goal:

- Determine if/which questions must be retained from the previous survey, develop a more campus relevant survey, and conduct a survey of faculty, staff, and students to determine stormwater awareness and areas of program improvement.

Evidence of Completion:

- Provide a copy of the survey along with the results and analysis.

1.H.1 - Conduct follow up survey every 2-4 years

Activity Owner: TFISE

Schedule: Permit Year 4

Measurable Goal:

- Utilizing the updated survey, conduct a survey of faculty/staff/students on a routine basis to determine program effectiveness and areas needing improvement.

Evidence of Completion:

- Provide the results and analysis of the survey.

1.I - Regularly meet with LFUCG MS4 Coordinator to coordinate programs and provide updates

Activity Owner: EMD

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Set up meetings/calls (minimum quarterly) to discuss relevant issues from each MS4 that could benefit or impact the other.

Evidence of Completion:

- Provide dates of the meeting/calls along with a summary of the discussion.

1.J - Develop a consortium of stormwater professionals targeting universities

Activity Owner: TFISE

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Develop a network of individuals.
- Meet with stormwater professionals to discuss campus stormwater and share ideas at least once annually.

Evidence of Completion:

- Provide meeting date(s), attendees, and the agenda/list of topics discussed.

1.K - Develop a stormwater steward certification program (StormCats) similar to the backyard stream steward certification process

Activity Owner: TFISE

Schedule: Permit Year 4

Measurable Goal:

- Develop a program along with online modules that can be used to gain certification in stormwater protection. Center the program around campus/MS4.

Evidence of Completion:

- Provide a link to programs and modules (e.g Canvas).

MCM 2 – Public Involvement and Participation

An assessment of this MCM during the past permit cycle paralleled that of MCM 1. Since this was UK's first MS4 permit cycle, several lessons have been learned regarding the best methodologies to accomplish student, faculty, and staff involvement and participation regarding water quality. For the 2018-2023 permit, tasks and responsibilities will be assigned primarily to TFISE and performed in conjunction with MCM 1. A more active approach will be taken.

For the 2018-2023 permit, the SWQMP has delineated additional BMP tasks and in combination with MCM 1, is assigning the majority of those tasks to TFISE for completion. In addition to the TFISE and FIS assisting with this MCM, Environmental Management Department proposes the hiring of interns to augment full-time staff for website development, advertising/marketing, engagement, and event planning activities. These interns will be managed by TFISE.

MCM 2 BMPs: The objective of this MCM is to engage the UK MS4 community in an active role in both the development and implementation of UK's stormwater management program. The community will be able to provide valuable input into stormwater management activities which will be integral to the overall success of the program because of the additional support, expertise and resources brought to bear.

2.A - Update and improve the stormdrain marking program

Activity Owner: EMD/TFISE

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Develop a redesign for the stormdrain marking program and plan in year two
- Coordinate the program and participation with the marked drain inventory and interactive map completion.

Evidence of Completion:

- Provide a progress update of efforts/changes completed each year.

2.A.1 - Update the inventory of marked drains via an intern program

Activity Owner: EMD

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Develop an outline for intern job responsibilities.
- Begin/complete the intern hiring process.
- Work with FIS to create a map/inventory for the intern to document findings.
- Assign duties to the intern and train.
- Continue the assessment of drains annually until the inventory is complete.

Evidence of Completion:

- Intern progress will be tracked via map/inventory system. Provide updates on progress via inventory/map versions and/or link.

2.A.2 - Develop an interactive map to show/track drain marking activity

Activity Owner: EMD/FIS

Schedule: Permit Year 2

Measurable Goal:

- Work with FIS to develop an interactive map to be added to the webpage that indicates storm drain locations and which ones are marked/need to be marked.

Evidence of Completion:

- Add the MS4 Map with attributes to the website and provide the link.

2.A.3 - Develop an advertising/awareness campaign to improve program participation

Activity Owner: TFISE

Schedule: Permit Years 3, 4, and 5

Measurable Goal:

- Create various advertising materials.
- Market the program to faculty, staff, students, and visitors through various means to increase awareness and participation annually once completed.

Evidence of Completion:

- Provide a copy of the marketing materials.
- Provide the number of storm drains marked annually.
- Provide the number of participants annually.

2.B - Involve students, faculty, and staff in stormwater activities (e. g. drain marking, rain garden maintenance, new stream restoration project)

Activity Owner: TFISE

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Involve students in a minimum of two activities per year.

Evidence of Completion:

- Provide a list of activities, the list of participants at each activity, and photos.

2.B.1 - Develop procedures for alerting public (Faculty, Staff, Students, etc.) of program participation opportunities and changes/updates

Activity Owner: TFISE

Schedule: Permit Year 2

Measurable Goal:

- Determine notification preferences, including how best to utilize the webpage (see task 2.B.2).
- Create a procedure outlining when and how notifications are used.

Evidence of Completion:

- Provide a copy of the notification methods/procedures and include in the Stormwater Operations Manual.
- Provide copies of any notifications.

2.B.2 - Update webpage (see task 1.B) to include an events calendar or latest info

Activity Owner: TFISE/EMD

Schedule: Permit Year 3

Measurable Goal:

- Include public alerts, notifications, and updates on webpage/social media.

Evidence of Completion:

- Provide a link to the webpage and copies/dates of notifications.

2.C - Consider the development of a brief pre and post survey for activity participants

Activity Owner: TFISE

Schedule: Permit Year 3, 4, and 5

Measurable Goal:

- Develop pre and post survey templates in year three and identify activities suitable to perform surveys
- Conduct at least one survey activity in years 4 and 5 to gain feedback on the stormwater program and/or the activity.

Evidence of Completion:

- Provide a copy of any surveys conducted along with the results.

MCM 3 – Illicit Discharge Detection and Elimination

During the 2010-2018 permit, all IDDE tasks were completed except for the development of an administrative regulation prohibiting non stormwater discharges and illegal dumping or the distribution of this regulation to the campus community. Given the unique challenges of a public university enacting traditional enforcement mechanisms, the development of an ordinance pertaining to illicit discharge enforcement was not practical to establish. In place of an ordinance, EMD reviewed Administrative Regulation (AR 6:3), which regulates environmental health and safety for the entire UK. While AR 6:3 was in place, EMD sought to update the regulation with the definition of an illicit discharge and penalties for those discharges. It was later determined that AR 6:3's requirement for all students, employees, and members of the community to comply with all environmental laws and regulations was adequate and that specific requirements could be handled through policies, procedures, and employee training. While efforts began in the first permit cycle, policies, procedures, and training need to be increased and refined in the second permit cycle.

While regulatory processes were in place during the previous permit, along with an IDDE Manual, procedures need to be updated, streamlined, and consolidated during the new permit cycle. The Environmental Management Department with input and support from Facilities Operations, Utilities, Real Estate, and Athletics plans to develop a Stormwater Operations Manual and guidance documents to address the variety of potential illicit discharges from the various sources on campus. The development of the comprehensive Stormwater Operations Manual has been identified as a priority for this MCM.

MCM 3 BMPs: The objective of this measure is to ensure that the UK MS4 community has a thorough awareness of illicit discharges and their impact to water quality. Proactive investigation, identification, and elimination of illicit discharges, development of standard operating procedures, and applicable training will be a part of this MCM.

3.A - Maintain and update the MS4 and Utility Maps annually/as necessary

Activity Owner: EMD, Utilities

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Add recently installed BMP's, changes, and updates to the MS4 system as they occur

Evidence of Completion:

- Continue to update the online utility map.
- Add the latest version of the MS4 map to the website.

3.A.1 - Update the Utility map to include Bell's 2017 assessment/mapping info

Activity Owner: Utilities

Schedule: Permit Year 2

Measurable Goal:

- Provide the survey information from Bell's assessment to FIS for inclusion on the Utility map.

Evidence of Completion:

- Include the latest data on the utility map and provide the link.

3.A.2 - Develop clear procedures for recording/reporting of the MS4 boundary expansion and inclusion of new territory in MS4/UK O&M and add to the Stormwater Operations Manual

Activity Owner: EMD, FO, Utilities, Real Estate

Schedule: Permit Years 2 and 3

Measurable Goal:

- Determine the steps and current procedures for adding property and notification to Utilities/FO/EMD in year two.
- Develop/amend current procedures and include documentation of notification in year two/three.
- Add the developed procedures to the Stormwater Operations Manual.

Evidence of Completion:

- Provide the list of procedures.
- Provide the list/map of added properties (include link).

3.B - Review IDDE Plan and update as necessary

Activity Owner: EMD

Schedule: Permit Year 1

Measurable Goal:

- Bring the plan up to date.
- Include the updated MS4 map and adjust any references to the map.

Evidence of Completion:

- Provide a copy of the updated plan.

3.B.1 - Update to include new permit requirements

Activity Owner: EMD

Schedule: Permit Year 1

Measurable Goal:

- Compare the contents of the existing plan to the permit requirements.
- Amend content as necessary.

Evidence of Completion:

- Provide a copy of the updated plan.

3.B.2 - Develop SSO protocols and resolution timeframes

Activity Owner: EMD, FO, Utilities

Schedule: Permit Year 2

Measurable Goal:

- Develop a Sanitary Sewer Overflow response policy/procedures/guidelines that include clean up requirements, reasonable timeframes for clean-up/correction, and notification procedures.
- Distribute protocols to those involved in SSO response, train as necessary.

Evidence of Completion:

- Provide a copy of the procedures.
- Provide a distribution list and/or training sign in sheet.

3.B.3 - Incorporate procedures/requirements into the Stormwater Operations Manual

Activity Owner: EMD

Schedule: Permit Year 5

Measurable Goal:

- Add a SSO section to the Stormwater Operations Manual.

Evidence of Completion:

- Provide a copy of the Stormwater Operations Manual once completed.

3.B.4 - Visually inspect outfalls from campus annually

Activity Owner: EMD

Schedule: Permit Years 1, 2 3, 4, and 5

Measurable Goal:

- Inspect outfalls during dry weather based on IDDE Manual requirements.
- Input inspections into MS4 database.

Evidence of Completion:

- Provide a copy of the outfall inspection reports.

3.B.5 - Evaluate the assessment of dry weather flows in known areas of concern on campus

Activity Owner: EMD

Schedule: Permit Year 2

Measurable Goal:

- Determine the need for dry weather flow assessment based on historical sampling data and outfall inspections.
- Determine if resources are available this permit cycle for sampling efforts (time, budget).
- Develop/add to monitoring program as necessary.

Evidence of Completion:

- Provide a summary of the determination, timetables, and a copy of the monitoring plan/QAPP if/when developed.

3.B.5.a - Evaluate the assessment of all UK based dry weather flows to the Manchester Street Culvert through confined space entry and sampling of E coli, Ammonia, TSS, and other stormwater constituents

Activity Owner: EMD

Schedule: Permit Year 2

Measurable Goal:

- Review LFUCG sampling data.
- Observe dry weather flows through system.
- Discuss the possibility of coordination with LFUCG.
- Develop/add to the monitoring program as necessary.

Evidence of Completion:

- Provide a summary of the evaluation along with any assessment findings (if applicable).

3.C - Update the website and complaint reporting mechanism (see tasks 1.B and 1.B.2)

Activity Owner: EMD, TFISE

Schedule: Permit Year 2

Measurable Goal:

- Develop a reporting mechanism that allows the user to quickly snap a photo of an issue and send directly to EMD.

Evidence of Completion:

- Provide a link to the reporting mechanism.

3.D - Update staff training on illicit discharge identification and reporting (see task 1.F)

Activity Owner: EMD, TFISE, FO

Schedule: Permit Year 3

Measurable Goal:

- Consolidate and update existing online staff training.
- Develop staff protocols for reporting and include information on the new reporting mechanism.
- Add protocols to the IDDE Manual/Stormwater Operations Manual.

Evidence of Completion:

- Provide a copy of/link to training materials.
- Provide a copy of the protocols.

3.D.1 - Integrate illicit discharge detection and prevention into routine staff duties

Activity Owner: FO, Utilities, Athletics

Schedule: Permit Year 4

Measurable Goal:

- Evaluate activities already being performed by staff where the inspection of storm drains and reporting of issues can be easily integrated.
- Add the inspection of surrounding storm drains to the SPCC monthly inspection list.
- Train grounds staff on how to identify issues when mowing, etc.

Evidence of Completion:

- Provide list/description of activities where IDDE has been integrated.

3.D.2 - Include all information and procedures into a comprehensive Stormwater Operations Manual

Activity Owner: EMD

Schedule: Permit Year 4

Measurable Goal:

- Integrate training and procedures developed into the Stormwater Operations Manual.

Evidence of Completion:

- Provide copies of any/all procedure updates being included in the manual or a copy of the created/updated Stormwater Operations Manual.

3.D.3 – Develop a video on the most frequent illicit discharges and how to report them (task 1.F.1)

Activity Owner: TFISE, EMD

Schedule: Permit Year 5

Measurable Goal:

- Determine the most frequent illicit discharges.
- Work with TFISE to develop the video.
- Distribute/utilize video.

Evidence of Completion:

- Provide a link to the video.
- Provide a distribution list and/or list of trainings/discussions where the video is utilized.

3.E - Update and maintain the illicit discharge tracking program as necessary

Activity Owner: EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Document all complaints and input into the MS4 database as they occur.

Evidence of Completion:

- Provide a copy of any complaint reports.

3.F - Evaluate performing additional/routine Thermal Imaging scans to locate possible discharges and develop procedures as necessary

Activity Owner: EMD, Utilities

Schedule: Permit Year 2

Measurable Goal:

- Determine if additional/routine scans will be beneficial/economically viable.
- Determine protocols for how/when scans will be used.
- Plan for future scans as necessary.

Evidence of Completion:

- Provide a summary of the determination.
- Provide a copy of the protocols and/or include in the Stormwater Operations Manual.
- Provide a schedule of future scans (if applicable).

3.F.1 - Locate, prioritize, and minimize heating/cooling system leaks

Activity Owner: Utilities

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Investigate as necessary to determine the source of leaks impacting the storm sewer system.
- Develop a prioritized repair list.
- Repair/maintain the system as necessary to minimize leaks and impact to the storm sewer system.

Evidence of Completion:

- Provide a list of annual investigation efforts/repairs made/maintenance costs
- Provide the prioritized repair list.

3.G - Complete Greenhouse conversion to sanitary sewer

Activity Owner: FO

Schedule: Permit Year 1

Measurable Goal:

- Divert the remaining greenhouse drains from storm to sanitary.

Evidence of Completion:

- Provide evidence of completion (project as-builts/invoices).

3.H - Minimize cigarette butts entering storm drains

Activity Owner: EMD, FO, Grounds

Schedule: Permit Year 3

Measurable Goal / Measure of Success:

- Meet with the UK Tobacco-free Taskforce to discuss cigarette butts entering storm drains, the impact on stormwater, and stormwater requirements.
- Develop/implement BMP's to prevent cigarette butts from entering storm drains.
- Coordinate with LFUCG at campus boundaries.

Evidence of Completion:

- Provide a sign-in sheet/meeting minutes/copy of the meeting invite.
- Provide a list/description of BMP's implemented.

MCM 4 – Construction Site Stormwater Runoff Control

UK has undergone a major physical transformation since 2010. During this time, UK has managed its construction site stormwater runoff process with minor issues. Encountered challenges included the transition from construction to post-construction operations and enforcement of construction site violations. Tasks under this MCM were generally assigned to Capital Project Management with little interface with other departments who would accept responsibility for maintenance and operations. To meet these challenges, new tasks have been included in the new permit cycle to strengthen the program. Several recommendations for improving these tasks in the SWQMP include: involving other departments during the preliminary phases of capital projects, improving contract language regarding stormwater management during construction and post-construction in order to strengthen enforcement, and developing a training program to educate contractors on stormwater requirements.

MCM 4 BMPs: The objective of this measure is to reduce the impact of construction site runoff on the waters of the Commonwealth by using BMPs, both structural and non-structural, to prevent construction site pollutants from negatively impacting other MS4s and streams.

4.A - Improve the construction project notification/review process, including the timing of notification and inclusion of the appropriate departments

Activity Owner: CPMD/FO

Schedule: Permit Year 2

Measurable Goal:

- Update the Capital Projects Typical Projects Step List.
- Educate CPMD Project Managers on updated project steps.
- Develop/verify FO procedures and update as necessary.

Evidence of Completion:

- Provide a copy of updated project steps list.
- Provide a copy of the presentation and/or meeting sign in sheet for Project Manager training.
- Provide a copy of the updated FO procedures.

4.B - Develop an alternative to permit issuance as part of the formal review process (i.e. – EMD Notification to Proceed)

Activity Owner: CPMD, EMD

Schedule: Permit Year 2

Measurable Goal:

- Create a project step that requires approval of water quality measures by CPMD and EMD before a project can proceed.
- Create procedures for how the step will be utilized and enforced.
- Integrate the step into the MS4 web database and project manager project step list.

Evidence of Completion:

- Provide the procedures of the approval process.

4.C - Strengthen contract language requiring contractors to implement SWPPP controls, obtain stormwater permit coverage, and maintain compliance with stormwater requirements

Activity Owner: CPMD

Schedule: Permit Year 1

Measurable Goal:

- Update contract language to provide for better enforcement capability and correction of construction site stormwater deficiencies.

Evidence of Completion:

- Provide a copy of the updated contract language.

4.D - Perform audit inspections on construction sites monthly

Activity Owner: CPMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Inspect all active construction sites once per month minimum.

Evidence of Completion:

- Provide the number of inspections conducted as well as copies of the inspections/annual inspection report.

4.D.1 - Update the construction site inspection checklist as necessary

Activity Owner: CPMD, EMD

Schedule: Permit Year 2

Measurable Goal:

- Tailor the existing checklist to better meet UK needs or develop a new checklist.
- Update the MS4 website with any changes.

Evidence of Completion:

- Provide a copy of the updated checklist.

4.D.2 – Develop a progressive/escalating enforcement policy and procedures for SWPPP/KYR10 violations (See task 3.A)

Activity Owner: CPMD, EMD

Schedule: Permit Year 2

Measurable Goal:

- In conjunction with contract language changes, develop an enforcement policy and procedures for SWPPP violations.
- Update design standards to clarify the requirements and expectations of contractors.

Evidence of Completion:

- Provide a copy of the enforcement policy/procedures.
- Provide a copy of the updated design standards.

4.D.2.a - Develop an RFP for Stormwater Remediation and award the contract

Activity Owner: CPMD

Schedule: Permit Year 2

Measurable Goal:

- Draft and post a Stormwater Remediation RFP.
- Review proposals and select a contractor.
- Utilize the selected contractor to repair stormwater deficiencies on active construction sites as needed.

Evidence of Completion:

- Provide the selected contractors information and description of duties.
- Provide a list of construction sites the contractor has been hired to repair along with a list of the deficiencies corrected.

4.D.3 – Update and maintain the inspection and enforcement tracking mechanism as necessary

Activity Owner: CPMD, EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Regularly update the MS4 database with inspection and compliance information.

Evidence of Completion:

- Provide an up-to-date inspection report.

4.D.4 - Develop and implement an internal QC process to ensure site inspections are being performed and KYR 10 requirements are being met

Activity Owner: EMD

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Develop procedures for the auditing of UK's construction site stormwater inspection program to ensure MS4 permit requirements are being met.
- Conduct an audit of the program annually.

Evidence of Completion:

- Provide a copy of procedures.
- Provide the audit results/report.

4.E - Review construction plans to ensure SWPPP measures are being incorporated for all projects disturbing 1 acre or more

Activity Owner: CPMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Review all applicable construction project plans to ensure stormwater requirements are being met.
- Update the MS4 database with review information.

Evidence of Completion:

- Provide a list of all construction projects reviewed annually.

4.E.1 - Continue to utilize LFUCG's most recent stormwater requirements, including their Stormwater Manual and LID guidelines

Activity Owner: CPMD, EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Update contract/design standards as needed.
- Review projects based on LFUCG guidelines.
- Update the MS4 database as needed.

Evidence of Completion:

- Provide a copy of the updated contract/design standards.
- Provide project review reports from the MS4 database.

4.E.2 - Update SWPPP review checklists

Activity Owner: CPMD, EMD

Schedule: Permit Year 2

Measurable Goal:

- Adopt the LFUCG Land Disturbance Permit Application and Sediment Control Plan Checklist for project review, tailor to fit UK needs, and integrate into the MS4 database.
- Develop an additional checklist for SWPPP requirement review (based on KYR10) and integrate into the MS4 database.

Evidence of Completion:

- Provide a copy of the updated checklist(s).

4.F - Have designated staff reviewing plans or performing inspections receive/maintain KEPSC Inspector Certification

Activity Owner: EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Require designated staff to maintain current certification.

Evidence of Completion:

- Provide staff certification information.

4.G – Develop a training program to educate contractors and designers on stormwater requirements

Activity Owner: CPMD, EMD

Schedule: Permit Year 2

Measurable Goal:

- Create training program procedures, goals, and guidelines for SWPPP measures.

Evidence of Completion:

- Provide a copy of training procedures/goals/guidelines.

4.G.1 - Develop UK construction process/requirement training

Activity Owner: CPMD, FO

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Develop training in year two.
- Conduct training annually (minimum).

Evidence of Completion:

- Provide training presentation/information.
- Provide training schedule & sign in sheets.

4.G.2 - Develop KYR10 Requirement training

Activity Owner: CPMD, EMD

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Develop training in year two/three.
- Conduct training with each project, or annually at a minimum.

Evidence of Completion:

- Provide training presentation/information.
- Provide training schedule & sign in sheets.

4.G.3 - Develop SWPPP development/requirement training

Activity Owner: CPMD, EMD

Schedule: Permit Years 3, 4, and 5

Measurable Goal:

- Develop training in year three.
- Conduct annually/as needed.

Evidence of Completion:

- Provide training presentation/information.
- Provide training schedule & sign in sheets.

4.G.4 - Work with the Kentucky Transportation Center to provide KEPSC Inspector Training on campus annually (minimum)

Activity Owner: EMD

Schedule: Permit Year 2

Measurable Goal:

- Contact the Kentucky Transportation Center and discuss the possibility of providing training on campus annually.
- Hold training annually (if possible).

Evidence of Completion:

- Provide a summary of the discussion.
- Provide a training schedule (if applicable).

4.G.5 - Develop stormwater site inspection review training to be provided for each project

Activity Owner: CPMD, EMD

Schedule: Permit Year 3

Measurable Goal:

- Develop training in year three to be provided during the preconstruction meeting of each project.

Evidence of Completion:

- Provide a copy of the training.
- Provide a list of projects and the sign in/training acknowledgement sheet.

4.H - Develop formal policy/guidance/procedures for small construction projects (<1 acre)

Activity Owner: CPMD, FO

Schedule: Permit Year 2

Measurable Goal:

- Create written procedures/policy for handling stormwater on small construction projects (review, approval, BMP selection, inspection, contractor training, etc.).
- Put a policy in place for small construction projects (as appropriate).

Evidence of Completion:

- Provide a copy of the developed policies/procedures.

MCM 5 – Post-Construction Stormwater Management

Most of the task goals for MCM 5 were completed over the course of the permit. The Capital Project Management Department and Environmental Management Department took the lead on completing most of these tasks with the Grounds Department assisting with maintenance related tasks. While tasks were generally accomplished, some areas for improvement include the need to clarify and update the post construction stormwater requirements in UK design and construction standards, the need to create and refine checklists for plan review, and the need for specialized BMP specific maintenance. With the large amount of infrastructure growth during the previous permit, numerous post-construction BMPs were installed. Managing the maintenance, operations, and inspection of these BMPs will be the challenge to meet during this next permit.

With major construction projects ongoing and completed during the past decade, the inspection, operation and maintenance of the many BMP's installed will play a critical role during this next permit cycle. The SWQMP Identifies additional departments to assist with the demanding responsibility of maintaining this significant infrastructure addressing water quality. Establishing a Stormwater Operations Manual will provide guidance for all departments regarding inspection, maintenance, and upkeep. Integrating green infrastructure practices along with identified cost benefit ROI is another key task for this SWQMP.

MCM 5 BMPs: The object of this measure is to positively impact the chemical, biological and overall health of the Commonwealth's streams, rivers and lakes by reducing the rate and volume and improving the quality of stormwater runoff from the MS4 after construction has been completed.

5.A - Continue the adoption of LFUCG Post Construction Requirements for New/Redevelopment

Activity Owner: CPMD/EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Require the submittal of a narrative and Executive Summary for new or re-development for all applicable projects.
- Review projects based on the latest LFUCG standards.
- Update design and construction standards with any changes to post construction stormwater quality requirements as necessary.
- Update the MS4 database with project information and approvals.

Evidence of Completion:

- Maintain submitted information for each project.
- Provide a copy of updated design and construction standards (if applicable).
- Provide a list of approved projects and/or the MS4 database report.

5.A.1 – Review the possibility of finalizing the LFUCG Memorandum of Understanding

Activity Owner: EMD

Schedule: Permit Year 3

Measurable Goal:

- Begin discussions with UK and LFUCG regarding the completion of a MOU between the two MS4's.
- Complete and sign the MOU if applicable.

Evidence of Completion:

- Provide a summary of the determination and/or a copy of the completed/signed MOU.

5.A.2 - Evaluate the development of a Stormwater Masterplan for UK's main campus

Activity Owner: EMD, CPMD, Sustainability, FO, Utilities

Schedule: Permit Years 2, 3, and 4

Measurable Goal:

- Meet with the applicable stakeholders to determine the need for a Masterplan, its components, and development.
- Begin the development of a Masterplan or schedule development of the Masterplan as needed.
- Create UK standards for stormwater post construction BMP selection (consider local water quality impairments).
- Evaluate adopting the UK Landscape Guidelines as policy, and enforcement of the policy.
- Incorporate into work flow and utilize the SITES review process (or equivalent) on all construction projects.

Evidence of Completion:

- Provide meeting minutes/summary, sign in sheet, and copy of masterplan or schedule if applicable.
- Provide a copy of post construction BMP selection standards
- Provide an update on the Landscape Guidelines as policy determination along with procedures for the enforcement of the policy, if applicable.
- Provide the procedures for the SITES review process (or equivalent).
- Provide documentation of the review process used on new construction sites (score cards, etc.).

5.B - Review plans to ensure post-construction stormwater quality treatment has been addressed

Activity Owner: CPMD/EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Review plans in accordance with the latest LFUCG requirements.
- Document the review of plans in the MS4 database.

Evidence of Completion:

- Provide a report of reviewed projects.

5.B.1 - Have those employees responsible attend training regarding plan review and post construction BMP's when available

Activity Owner: CPMD/EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Attend training when available.

Evidence of Completion:

- Provide training information (dates, attendees, etc.).

5.B.2 - Adopt the LFUCG Land Disturbance Permit Application and Sediment Control Plan Checklist for project review and tailor to fit UK's needs (Task 4.E.2.a)

Activity Owner: CPMD/EMD

Schedule: Permit Year 2

Measurable Goal:

- Checklist adopted, tailored to fit UK needs, and updated to include additional components for post construction requirements.
- Update MS4 Web with new checklist.
- Begin using new checklist for project review.

Evidence of Completion:

- Provide a copy of the updated checklist.
- Provide a MS4 database report and/or copies of completed project review checklists.

5.C - Conduct inspections to ensure measures are being installed correctly**Activity Owner:** CPMD**Schedule:** Permit Years 1, 2, 3, 4, and 5**Measurable Goal:**

- Conduct punch list walkthrough and/or Notice of Termination inspection for all new construction projects upon project completion.
- Document the inspection in the MS4 database.

Evidence of Completion:

- Provide a list of the completed inspections.

5.D - Revise long-term post-construction stormwater quality BMP inspection program**Activity Owner:** FO, EMD, Utilities**Schedule:** Permit Years 1, 2, 3, 4, and 5**Measurable Goal / Measure of Success:**

- Inspect 20% of above ground post construction BMP's annually.
- Inspect 100% of underground BMP's annually.
- Develop a preventative maintenance program for all UK owned post construction BMP's in year two.
- Develop a tracking system to assess long term preventative maintenance (PM) cost for BMP's in conjunction with the PM program.
- Assist EDR with the development of a PM program for EDR owned BMP's in year two.
- Document all inspections and maintenance in the MS4 database or an effective equivalent.

Evidence of Completion:

- Provide a report/list of all inspected BMP's along with findings.
- Provide PM program procedures/guidelines.
- Provide a copy of pm cost assessment.
- Provide a list of all maintenance performed on BMP's.
- Provide a copy of the EDR PM plan.

5.E - Incorporate all relevant post-construction information into the new Stormwater Operations Manual**Activity Owner:** CPMD, EMD, FO**Schedule:** Permit Year 4**Measurable Goal:**

- Include all inspection, BMP maintenance procedures and schedules, site plan review/post construction processes, etc. in the new Stormwater Operations Manual.

Evidence of Completion:

- Provide a copy of the Stormwater Operations Manual/Procedures.

5.F - Advise administrative staff on the benefits of green infrastructure and the costs of construction and maintenance as compared to that of gray infrastructure. Do this prior to/in conjunction with tasks 5.A.2

Activity Owner: EMD, FO, Grounds, Sustainability

Schedule: Permit Years 2 and 3

Measurable Goal:

- Develop a comparison of green vs gray infrastructure to include costs and benefits.
- Provide the information to administrative staff via report and/or presentation.

Evidence of Completion:

- Provide a copy of the report and/or presentation.

5.G - Incorporate the Stormwater Program into the Sustainability Strategic Plan

Activity Owner: EMD, Sustainability

Schedule: Permit Year 1

Measurable Goal:

- Update the Sustainability Strategic Plan to include a water section.

Evidence of Completion:

- Provide a copy of the updated Strategic Plan.

MCM 6 – Pollution Prevention/Good Housekeeping for Municipal Operations

During the previous permit cycle, UK's main goal was to examine campus operations and develop procedures to minimize the impact to stormwater. As a result, multiple policies and procedure manuals were created. Some examples included: Stadium Washdown Procedures, the Environmental Protection Handbook, Employee Fact Sheets, Grounds Stormwater Policies, and a Dewatering Bag SOP. Training was also developed and conducted to relay these policies and the need to protect stormwater to staff. Due to the number of policies and procedures created, it has become evident that the information needs to be consolidated into one easily accessible location. Also, due to the rapid period of infrastructure growth over the last several years and the vast number of new post construction BMP's being installed, the need to maintain these devices has become a priority.

The need to consolidate and improve stormwater procedures on campus has led to the desire to develop a Comprehensive Stormwater Operations Manual. This will be an all-inclusive SOP that will house all policies, procedures, and BMP's utilized by UK to meet permit requirements. This manual will also include a detailed structural BMP specific O&M Manual for the operation and maintenance of each BMP. Along with this manual, a preventative maintenance program will be put in place for all structural BMP's. With these changes, it will be imperative that employee training be updated and conducted to educate those employees responsible for performing stormwater related tasks.

MCM 6 BMPs: The objective of this measure is to ensure that UK operations (i.e., open space maintenance, fleet management, building maintenance, utility line construction, etc.) are performed in ways that will minimize the impact to stormwater quality.

6.A – Develop a comprehensive UK Stormwater Operations Manual that includes all policies / procedures/BMPs utilized to meet permit requirements (all MCM's)

Activity Owner: FO, Utilities, Athletics, EMD

Schedule: Permit Year 5

Measurable Goal:

- Integrate all existing procedures/departamental policies into a new manual.
- Update existing policies/procedures to improve permit compliance (Environmental Handbook, Factsheets, etc.).
- Create new policies/procedures as necessary.
- Incorporate inventory of facilities, campus maintenance activities, and maintenance schedules.

Evidence of Completion:

- Provide the completed Stormwater Operations Manual.

6.A.1 - Update the BMP O&M Manual to include specific maintenance requirements, a calendar of required activities, and responsibilities for each existing post construction BMP

Activity Owner: EMD, CPMD, Utilities, FO

Schedule: Permit Year 4

Measurable Goal:

- Compile all O&M Manuals for new and recently installed BMP's.
- Create BMP specific requirements based on the manufacturer's recommendations and UK's existing O&M Manual.
- Create a calendar for completing required maintenance activities for all BMP's.
- Assign/Update responsibilities for the maintenance of each BMP.
- Incorporate/Coordinate with the BMP inspection program (see task 5.D).

Evidence of Completion:

- Provide a copy of the O&M Manual including the activity calendar and responsibility assignments to be integrated into the comprehensive Stormwater Operations Manual.

6.A.1.a - Determine which activities will be contracted out (e.g. underground BMP annual inspections and maintenance, pervious pavement cleaning) and issue a RFP as necessary (See task 5.D – Preventive Maintenance Program)

Activity Owner: FO, Utilities

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Determine which activities will require contractor assistance.
- Draft and issue the RFP.
- Hire a contractor.
- Schedule and perform inspections and maintenance as needed.

Evidence of Completion:

- Provide inspection reports and maintenance invoices.

6.A.1.b - Incorporate the maintenance calendar into the SAP Plant Maintenance system and create scheduled work orders for all activities

Activity Owner: FO, Utilities

Schedule: Permit Year 4

Measurable Goal:

- Provide the completed O&M Manual and calendar to FO/Utilities.
- Utilize information to create reoccurring work orders in the PM system.

Evidence of Completion:

- Provide example reports of SAP data/work orders.

6.A.2 - Evaluate the incorporation of the SPCC program into the Stormwater Program

Activity Owner: EMD

Schedule: Permit Year 3

Measurable Goal:

- Determine if/how the two programs can be combined.
- Create a plan to integrate the two programs (as necessary).

Evidence of Completion:

- Provide the determination and integration plan (if available).

6.A.3 - Develop procedures for rainwater harvesting system monitoring and reporting

Activity Owner: FO, EMD

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Utilizing LFUCG requirements and manufacturers O&M manuals, develop departmental procedures for monitoring the use of campus rainwater harvesting systems.
- Record monthly/annual use and total water harvested.

Evidence of Completion:

- Provide water harvesting data for all systems.

6.A.4 – Create a policy and/or procedures surrounding stormwater protection during emergency/unplanned events (water main breaks, etc.)

Activity Owner: FO, Utilities, EMD

Schedule: Permit Year 2

Measurable Goal:

- Develop a SOP for BMP implementation in response to emergencies/unplanned events.

Evidence of Completion:

- Provide a copy of the policy/procedures.

6.A.5 - Create policy/procedures for unknown spill cleanup (dumpsters, etc.)

Activity Owner: FO

Schedule: Permit Year 2

Measurable Goal:

- Create a SOP for response, notification & proper clean-up of unknown spills.

Evidence of Completion:

- Provide a copy of the policy/procedures.

6.A.6 - Develop SOP's for all Athletics activities that impact stormwater

Activity Owner: Athletics, EMD

Schedule: Permit Year 3

Measurable Goal:

- Assess Athletics maintenance activities and determine which activities (e.g. irrigation, fertilization, materials storage, etc.) have the potential to impact stormwater.
- Develop SOP's/BMP's for those activities.

Evidence of Completion:

- Provide fact sheets/SOP's.

6.B - Update the Employee Training Program

Activity Owner: EMD, Utilities, FO, Athletics

Schedule: Permit Year 5

Measurable Goal:

- Evaluate employee training participation/documentation and improve as needed.
- Update/consolidate training as necessary.
- Train employees on new procedures developed during the permit term.
- Integrate training prescribed actions into departmental procedures & employee behaviors/actions.

Evidence of Completion:

- Provide a list of any updated training.
- Provide the sign in sheets for any training conducted.
- Provide evidence of procedures that have been amended to alter employee behavior to protect stormwater.

6.C - Evaluate the pollution prevention measures for coal stockpiles and upgrade, improve, or maintain as necessary

Activity Owner: Utilities, EMD

Schedule: Permit Year 4

Measurable Goal:

- Assess and improve the coal pile discharge at Wildcat Court.
- Evaluate the remaining coal pile BMP's for effectiveness.
- Determine alternate BMP's for ineffective BMP's.
- Install new BMP's as necessary.

Evidence of Completion:

- Provide the assessment information and a list of any replacement BMP's installed.

6.D - Develop Waterfowl Management Program in response to local impairments (See task 8.C)

Activity Owner: FO

Schedule: Permit Year 4

Measurable Goal:

- Assess the impact of waterfowl on campus water quality.
- Assess and move forward with alternative management techniques for Gluck Pond.
- Develop an area specific Waterfowl Management Program for impacted areas of campus as needed.

Evidence of Completion:

- Provide assessment results
- Provide the description and photos of the installed BMP's and measures put in place at Gluck Pond.
- Provide a copy of the management plan.

6.E - Develop a steam/chilled water infrastructure repair priority list (See task 3.F.1)

Activity Owner: Utilities

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Create a list of required maintenance based on leak detection efforts.

Evidence of Completion:

- Provide a list of any annual investigation efforts/repairs made/maintenance costs.
- Provide a prioritized repair list.

6.F - Create procedures to address/repair stormwater issues/problems on campus once they are identified

Activity Owner: EMD, Utilities, FO, Athletics

Schedule: Permit Year 4

Measurable Goal:

- Create general procedures for notification, responsibility assignment, BMP installation (temporary and permanent), repair/resolution, timeframes, and reporting.
- Add procedures to the Stormwater Operations Manual.

Evidence of Completion:

- Provide a copy of the procedures.

6.G - Evaluate possible changes to administrative regulation 6:3 with regard to stormwater during upcoming review cycle in 2021

Activity Owner: EMD

Schedule: Permit Year 4

Measurable Goal:

- During the regular administrative regulation review cycle, determine if administrative regulation 6:3 needs to be amended based on stormwater program performance.

Evidence of Completion:

- Provide an assessment summary and/or any administrative regulation updates.

Section VI. Additional Permit Requirements (APR)

APR 7 - SWQMP REVIEW AND MODIFICATION

During the previous permit cycle, a review of SWQMP tasks took place each year as part of the annual report. Regular updates and modification of the SWQMP occurred on an infrequent basis.

The Stormwater Quality Management Plan should be analyzed on an annual basis and tasks/schedule modifications made as necessary (in accordance with the permit). This should be accomplished by tracking the SWQMP tasks with regularity and updating the plan accordingly. During this permit cycle, the goal will be to track SWQMP progress during SSAC meetings and adjust the schedule of BMP's as necessary. Assessment of overall effectiveness will be conducted at the end of each year.

The objective of the SWQMP Review and Modification is to evaluate BMP effectiveness and scheduling along with permit compliance.

7.A – Review the SWQMP annually and update as required by the permit

Activity Owner: EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Determine the completion of SWQMP tasks annually.
- Evaluate BMP effectiveness and scheduling.
- Modify the SWQMP as needed (in accordance with the permit).

Evidence of Completion:

- Provide a summary of the SWQMP assessment along with a description of any modifications made. Include a description of any replacement BMP's along with an analysis of why the former BMP was ineffective or infeasible.
- Provide information regarding any modifications to the schedule.
- *See the permit for more details regarding the information to be included with this task.*

APR 8 - TMDL's AND IMPAIRED WATERS

During the last permit cycle, no TMDL's were identified within the UK MS4 boundary. The 2016 303D list did identify recent impairments along the big elm fork tributary of Wolf Run. The sampling in Big Elm Fork was taken prior to the recent FEMA funded stormwater improvements and prior to the detection and elimination of an illicit discharge. Further sampling and continued dry weather inspections should occur to eliminate further impairment to waterways.

UK plans to continue efforts to minimize or eliminate contaminants from identified impaired waterways. The SSAC has noted several tasks to enact during this permit for monitoring impaired waterways.

The objective of this section is to assess UK's potential impact to local impaired waterways and put BMP's in place to reduce or eliminate that impact.

8.A - Implement BMP's in the Big Elm Fork Watershed in response to the recent impairment

Activity Owner: Utilities, Athletics

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Continue sewer line evaluation/cross connection review.
- Seal all manholes in the Shawneetown/Greg Page area as needed.
- Evaluate the development of BMP's to prevent discharges of grey/blackwater from tailgating RV's. Implement as necessary. (Coordinate with Task 1.C.1.a).
- Perform monitoring to evaluate BMP implementation/needs.
- Develop additional BMPs as necessary.

Evidence of Completion

- Provide assessment reports/invoices/photos.
- Provide photos/description of any BMP's implemented.
- Provide monitoring results/assessment.

8.B - Begin/continue watershed focused monitoring as appropriate (see task 9.A)

Activity Owner: EMD

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Sample watershed dry weather flow to determine the contribution to local impairments and direct BMP implementation (as appropriate).

Evidence of Completion

- Provide sample results/analysis and a description of any action taken as a result.

8.C - Continue goose population control efforts at Gluck Pond and the FEMA Basins/Big Elm Fork watershed (See task 6.D)

Activity Owner: FO

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Reduce waterfowl populations.

Evidence of Completion:

- Provide a description of efforts taken along with an assessment of waterfowl populations.

APR 9 - MONITORING PLAN

During the last permit cycle UK developed a monitoring plan that included sampling and an approved QAPP. During the permit period, the Division of Water changed requirements to visual monitoring only, UK continued to collect samples on an infrequent basis.

For this permit period, UK EMD plans to work with the TFISE's Water Working Group to evaluate and complete the campus research monitoring database, coordinate sampling efforts with LFUCG, and assess the need to develop and implement watershed focused monitoring on a routine basis.

The objective of the monitoring program is to determine the overall effectiveness of UK's stormwater management program. The monitoring results can be used to identify the general areas and potential causes of high pollutant loading and quantify the benefits of water quality measures installed in subwatersheds.

9.A – Assess the need/desire/ability to develop and implement a watershed focused monitoring plan with emphasis on local watershed impairments

Activity Owner: EMD

Schedule: Permit Years 2, 3, 4, and 5

Measurable Goal:

- Evaluate the development of a watershed focused monitoring plan.
- Create/Update a monitoring plan as necessary.
- Coordinate with LFUCG to determine their monitoring locations, monitoring dates, constituents, and historical data.
- Develop/Update a Quality Assurance Project Plan (QAPP) in association with the monitoring plan as necessary.
- Submit the monitoring plan and QAPP to the DOW for approval if/when developed.
- Begin collecting water samples in accordance with the written monitoring plan and QAPP if/when developed.

Evidence of Completion:

- Provide a copy of the Monitoring Plan, QAPP, DOW approval, and Water Quality Monitoring Data/Analysis or a summary of the determination to not pursue watershed focused monitoring.

9.B - Evaluate/Plan the completion of the campus research monitoring database

Activity Owner: TFISE, EMD

Schedule: Permit Year 5

Measurable Goal:

- Work with TFISE Water Working Group to evaluate and complete the campus research monitoring database (as needed).

Evidence of Completion:

- Provide a summary of actions related to the database and a link to the completed database if applicable.

APR 10 - FISCAL REQUIREMENTS

During the last permit, UK identified the need to develop budgets for maintaining green infrastructure, maintenance, repairs, training, and operating the MS4 program. As noted in each annual report, the funding for the MS4 program is a part of the overall EMD budget and is funded as a part of an environmental service fee applied to all UK departments.

For this permit cycle, UK will continue to utilize a general environmental service fee for the MS4 program and determine if other departments are properly funded to accomplish tasks identified in the SWQMP.

The purpose of this section is to ensure that proper funding is in place and maintained to accomplish the activities required by the permit.

10.A – Perform an assessment to determine if all departments are adequately funded to perform stormwater duties as assigned

Activity Owner: FO, Utilities, Athletics, TFISE, EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- As work is being done to complete SWQMP tasks, determine if departments are properly funded to accomplish tasks and reoccurring stormwater responsibilities.
- Develop a stormwater budget for the Utilities Division.
- Assess the Grounds Department's ability to perform BMP/storm drain maintenance.
- Develop an initial/reoccurring training budget for specialized maintenance needs (if/as needed).

Evidence of Completion:

- Provide annual stormwater budget information.

APR 11 - REPORTING REQUIREMENTS

UK submitted an annual report to KDOW for each year under the previous permit and will continue submitting annual reports each year during the effective permit period.

11.A - Develop and submit the annual report by April 15th

Activity Owner: EMD

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Compile the information regarding SWQMP task completion along with any additional stormwater efforts.

Evidence of Completion:

- Report submitted annually by April 15th

11.A.1 - Develop a reporting system for those providing annual report info

Activity Owner: EMD/TFISE

Schedule: Permit Years 1, 2, 3, 4, and 5

Measurable Goal:

- Have stakeholders provide evidence of task completion along with any additional stormwater effort information in a timely manner.

Evidence of Completion:

- Information received and included in annual report.

Section VII. References

Civil & Environmental Consultants, Inc. (2010). University of Kentucky 2009 Storm Water Quality Management Plan: Final April 2010. Lexington, Kentucky: University of Kentucky

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Municipal Separate Storm Sewer System Permit 2011 Annual Report (2011). Lexington, Kentucky: University of Kentucky

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[Sasaki Associates, Master Plan Map \[Final\]: September, 2017 \(2.5MB\)](#)

Shield Environmental Associated, Inc (2017). University of Kentucky Spill Prevention Control & Countermeasure Plan. Lexington, Kentucky: University of Kentucky

CERTIFICATION AND SIGNATURE

"By signing this SWQMP, I hereby certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Type or Print Name: Mary Vosevich

Signature: Mary Vosevich

Date: ~~09/18/18~~ 10/18/18
(mm/dd/year)

Appendix

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency				
					PY1	PY2	PY3	PY4	PY5
	The program must be formalized in a written Stormwater Quality Management Plan (SWQMP) that details how the required six minimum control measures will be implemented. This document must be modified as needed.								
MCM 1	Public Education and Outreach								
	1.A – Strengthen Education, Outreach and Participation Program	EMD, TFISE	▪ Develop partnership with TFISE in year one	▪ Provide agreement between EMD and TFISE (MOU)	X	X			
			▪ Develop MCM 1&2 budget in year one to determine operating constraints of program	▪ Provide copy of operational budget for MCM 1&2.					
			▪ Develop MCM 1&2 program improvements in year one	▪ Provide detailed outline of program for MCM 1&2.					
			▪ Hire interns to assist TFISE in education/outreach activities by year two	▪ Provide copies of intern final reports, presentations, data, etc.					
	1.B – Update and maintain stormwater website	EMD, TFISE	▪ Website redesigned	▪ Updated website launched, documentation of regular updates, page traffic information		X			
			▪ Website routinely updated						
			▪ Page visits are trackable/analytics package						
	1.B.1 – Develop interactive MS4 Map	EMD/FIS	▪ Create a map for inclusion on the website that provides detailed MS4 information above and beyond the existing 2D map. Examples of information to include: stormwater flow direction, watershed information, post construction bmp information (photos, descriptions, etc.)	▪ Provide link to published map			X		
			▪ Develop interactive Story Map						
	1.B.2 – Develop illicit discharge reporting system	EMD	▪ Create mobile friendly illicit discharge reporting web feature that allows the user to take photos, provide comments, and send information to EMD with minimal effort.	▪ Provide link of operational website that includes access to reporting system		X			
				▪ Provide the number of complaints through website and copies of the submitted reports					
	1.B.3 – Develop educator resource page (in conjunction with task 1.C.3)	TFISE	▪ Create a portion of the website to include stormwater resources for educators	▪ Provide link to resource page			X		
			▪ Create content to include on the resource page	▪ Provide access to created educator resources					
			▪ Develop notification of availability once completed						
	1.B.4 – Develop and maintain social media sites focused on UK stormwater	TFISE, EMD	▪ Begin utilizing existing social media accounts (Facebook, Twitter, etc.) to promote UK stormwater	▪ Provide links to social media accounts		X			
			▪ Add account links to UK Stormwater page						
			▪ Regularly update sites to keep information relevant						
	1.C – Develop and distribute public (faculty, staff, students, visitors) specific educational materials	TFISE	▪ Create education materials that specifically address how UK’s public impacts and can protect stormwater.	▪ Provide a copy of the created materials, numbers distributed		X	X	X	X
	1.C.1 – Extend program focus to visitors		▪ Identify ways in which visitors can impact stormwater and develop an awareness campaign to target those actions	▪ Provide a copy of awareness program items (pamphlets, signage, etc.)					
	1.C.1.a – Develop awareness materials to address illicit discharge prevention from tailgater RV’s (No dumping of gray/black water holding tanks) – Coordinate with Task 8.A	TFISE, Athletics, EMD, Transportation Services	▪ Develop awareness materials and coordinate distribution with annual parking pass/ticket sales.	▪ Provide copy of awareness materials and number distributed			X		
	1.C.2 – Provide mechanism for incorporating students in stakeholder/planning process	EMD,	▪ Create meeting/forum/platform for students to provide input in campus stormwater management decisions	▪ Provide meeting dates, sign in sheets, meeting minutes, agendas, etc.				X	
		Sustainability, TFISE							
	1.C.3 - Focus on pollutants impairing local waterways	TFISE	▪ Create awareness materials that specifically address pollutants identified in the 303d list impairing local waters as well as existing TMDL’s.	▪ Provide copy of materials created as well as numbers distributed.				X	X
			▪ Specify how those on campus can help reduce these problems.						
	1.C.4 – Create stormwater education materials for staff/extension use	TFISE	▪ Create curriculum that can be used to educate University public on their impacts to campus stormwater, MS4 requirements, and how they can help	▪ Provide any materials developed		X	X	X	X
	1.D – Participate in and/or facilitate special events/activities/joint sponsored events to increase stormwater awareness	TFISE	▪ Facilitate/Participate in one event per semester (minimum) that focuses on campus stormwater.	▪ Provide information on the events (dates, times, sign in sheets, photos, agendas, etc.)	X	X	X	X	X

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency				
					PY1	PY2	PY3	PY4	PY5
	1.D.1 – Involve student organizations	TFISE	▪ Work with student organizations to get participation in a minimum of one event/activity per year.	▪ Provide name of special event/activity, name of student organization, sign in sheet/attendance numbers per activity, and photos	X	X	X	X	X
			▪ Devise incentive program to boost participation	▪ Provide description of incentive and names of qualifying groups					
	1.E – Create stormwater awareness articles/posts/podcasts/videos for campus wide distribution (e.g. UKNow/Website/Kernel/Social Media/News Letters)	TFISE	▪ Develop and publish at least 1 article/post/podcast/ video per year	▪Provide copy of created items		X	X	X	X
	1.F – Update staff IDDE training and create method to ensure training is conducted annually	EMD, TFISE	▪ Update training to make more user friendly and relevant to campus activities	▪ Provide copy of training			X		
			▪ Integrate training into online training programs and routine staff meetings	▪ Provide sign in sheets and online training records annually					
	1.F.1 – Develop short promotional video on the most frequent illicit discharges and how to report them	EMD, TFISE	▪ Develop video/videos that can be utilized to train staff as well as promote the illicit discharge program and stormwater protection to general campus audiences to be shared through targeted outreach, social media, and other outlets.	▪ Provide copy of the completed video/link to access video				X	
				▪ Provide distribution list/number of viewings, etc.					
	1.G – Update individual departmental stormwater training and improve delivery system/participation	EMD, TFISE, Facility Operations, Utilities, Athletics	▪ Work to improve/develop department specific (Facility Operations, Athletics, Utilities) stormwater training and include that training in online systems and in routine departmental trainings, minimum annually.	▪ Provide copy of/link to the developed training			X	X	X
			▪ Expand training to areas such as grad students, outdoor labs, etc. that may impact stormwater						
	1.H – Update and conduct campus wide survey to determine effectiveness of the Outreach and Ed.program	TFISE	▪ Determine if/which questions must be retained from previous survey, develop more campus relevant survey, and conduct survey of faculty, staff, and students to determine stormwater awareness and areas of program improvement.	▪ Provide copy of survey along with results and analysis		X			
	1.H.1. – Conduct follow up survey every 2-4 years	TFISE	▪ Utilizing updated survey, conduct survey of faculty/staff/students on routine basis to determine program effectiveness and areas needing improvement	▪ Provide results and analysis of survey				X	
MCM 2	Public Involvement/Participation								
	2.A – Update and Improve the stormdrain marking program	EMD/TFISE	▪ Develop a redesign for the stormdrain marking program and plan in year two	▪ Provide progress update of efforts/changes completed each year		X	X	X	X
			▪ Coordinate the program and participation with the marked drain inventory and the interactive map completion.						
	2.A.1 – Update inventory of marked drains via intern program	EMD	▪ Develop an outline for intern job responsibilities	▪ Intern progress will be tracked via map/inventory system. Provide updates on progress via inventory/map versions and/or link.		X	X	X	X
			▪ Begin/complete intern hiring process						
			▪ Work with FIS to create map/inventory for intern to document findings						
			▪ Assign duties to intern and train						
			▪ Continue with process annually until inventory is complete						
	2.A.2 – Develop interactive map to show/track drain marking activity	EMD/FIS	▪ Work with FIS to develop interactive map to be added to webpage that indicates storm drain locations and which ones are marked/need to be marked.	▪ Map added to website, link provided		X			

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency				
					PY1	PY2	PY3	PY4	PY5
	2.A.3 – Develop advertising/awareness campaign to improve program participation	TFISE	<ul style="list-style-type: none">• Create various advertising materials• Market program to faculty, staff, students, and visitors through various means to increase awareness and participation annually once completed.	<ul style="list-style-type: none">• Provide # stormdrains marked annually• Provide # of participants annually• Provide copy of marketing materials			X	X	X
	2.B – Involve students, faculty, and staff in stormwater activities (e.g. drain marking, rain garden maintenance, new stream restoration project)	TFISE	<ul style="list-style-type: none">• Involve students in a minimum of two activities per year	<ul style="list-style-type: none">• Provide list of activities, list of participants, and photos	X	X	X	X	X
	2.B.1 – Develop procedures for alerting public (Faculty, Staff, Students, etc.) of program participation opportunities and changes/updates	TFISE	<ul style="list-style-type: none">• Determine notification preferences, including how best to utilize the webpage (see task 2.B.2)• Create procedures outlining when and how notifications are used	<ul style="list-style-type: none">• Provide copy of notification methods and procedures/include in the Stormwater Operations Manual• Provide copies of any notifications		X			
	2.B.2 – Update webpage (see task 1.B) to include an events calendar or latest info	TFISE/EMD	<ul style="list-style-type: none">• Include public alerts, notifications, and updates on webpage/social media.	<ul style="list-style-type: none">• Provide link to webpage & copies/dates of notifications			X		
	2.C. – Consider development of brief pre and post survey for activity participants	TFISE	<ul style="list-style-type: none">• Develop pre and post survey templates in year three and identify activities suitable to perform surveys• Conduct at least one survey activity in years 4 and 5 to gain feedback on the stormwater program and/or the activity.	<ul style="list-style-type: none">• Provide a copy of any surveys conducted along with the results			X	X	X
MCM 3	Illicit Discharge Detection and Elimination								
	3.A - Maintain and update MS4 and Utility Maps annually/as necessary	EMD, Utilities	<ul style="list-style-type: none">• Add recently installed bmp's, changes, and updates to MS4 system as they occur	<ul style="list-style-type: none">• Utility map updated online• Latest version of MS4 map added to website	X	X	X	X	X
	3.A.1. - Update Utility map to include Bell 2017 assessment/mapping info	Utilities	<ul style="list-style-type: none">• Provide the survey information from Bell's assessment to FIS for inclusion on the Utility map	<ul style="list-style-type: none">• Include the latest data on the utility map and provide the link		X			
	3.A.2 – Develop clear procedures for recording/reporting of MS4 boundary expansion and inclusion of new territory in MS4/University O&M and add to the Stormwater Operations Manual	EMD, Facility Operations, Utilities, Real Estate	<ul style="list-style-type: none">• Determine steps and current procedures for adding property and notification to Utilities/Facility Operations/EMD in year two• Develop/amend current procedures and include documentation of notification in year two/three• Add procedures to Stormwater Operations Manual	<ul style="list-style-type: none">• Provide list of procedures• Provide list/map of added properties (include link)		X	X		
	3.B - Review IDDE Plan and update as necessary	EMD	<ul style="list-style-type: none">• Bring the plan up to date• Include the updated MS4 map and adjust any references to the map	<ul style="list-style-type: none">• Provide copy of updated plan	X				
	3.B.1 – Update to include the new permit requirements	EMD	<ul style="list-style-type: none">• Compare contents of existing plan to the permit requirements• Amend content as necessary	<ul style="list-style-type: none">• Provide copy of updated plan	X				
	3.B.2 – Develop SSO protocols and resolution timeframes	EMD, Facility Operations, Utilities	<ul style="list-style-type: none">• Develop a Sanitary Sewer Overflow response policy/procedures/guidelines that include clean up requirements, reasonable timeframes for clean-up/correction, and notification procedures• Distribute protocols to those involved in SSO response, train as necessary	<ul style="list-style-type: none">• Provide copy of procedures• Provide distribution list and/or training sign in sheet		X			
	3.B.3 – Incorporate procedures/requirements into the Stormwater Operations Manual	EMD	<ul style="list-style-type: none">• Add SSO section to the Stormwater Operations Manual	<ul style="list-style-type: none">• Provide copy of the Stormwater Operations Manual once completed					X
	3.B.4 – Visually inspect outfalls from campus annually	EMD	<ul style="list-style-type: none">• Inspect outfalls during dry weather based on IDDE Manual requirements• Input inspections into MS4 database	<ul style="list-style-type: none">• Provide copy of outfall inspection reports	X	X	X	X	X
	3.B.5 – Evaluate the assessment of dry weather flows in known areas of concern on campus	EMD	<ul style="list-style-type: none">• Determine the need for dry weather flow assessment based on historical sampling data and outfall inspections• Determine if resources are available this permit cycle for sampling efforts (time, budget)• Develop/add to monitoring program as necessary	<ul style="list-style-type: none">• Provide summary of determination, timetables, and a copy of the monitoring plan/QAPP if/when developed.		X			
	3.B.5.a – Evaluate assessment of UK based dry weather flows to the Manchester Street Culvert via confined space entry and sampling of E.coli, Ammonia, TSS, and other constituents	EMD	<ul style="list-style-type: none">• Review LFUCG sampling data• Observe dry weather flows through system• Discuss possibility of coordination with LFUCG• Develop/add to monitoring program as necessary	<ul style="list-style-type: none">• Provide summary of evaluation and any assessment findings (if applicable)		X			
	3.C – Update website and complaint reporting mechanism (see tasks 1.B and 1.B.2)	EMD, TFISE	<ul style="list-style-type: none">• Develop a reporting mechanism that allows the user to quickly snap a photo of an issue and send directly to EMD.	<ul style="list-style-type: none">• Provide link to reporting mechanism		X			

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency				
					PY1	PY2	PY3	PY4	PY5
	3.D – Update staff training on illicit discharge identification and reporting (see task 1.F)	EMD, TFISE, Facility Operations	• Consolidate and update existing online staff training	• Provide copy of/link to training			X		
			• Develop staff protocols for reporting and include information on the new reporting mechanism	• Provide copy of protocols					
			• Add protocols to IDDE Manual/Stormwater Operations Manual						
	3.D.1 – Integrate illicit discharge detection and prevention into routine staff duties	Facility Operations, Utilities, Athletics	• Evaluate activities already being performed by staff where the inspection of storm drains and reporting of issues can be easily integrated.	• Provide list/description of activities where IDDE has been integrated				X	
			• Add inspection of surrounding storm drains to SPCC monthly inspection list						
			• Train grounds staff how to identify issues when mowing, etc.						
	3.D.2 – Include all information/procedures into a comprehensive Stormwater Operations Manual	EMD	• Integrate training and procedures developed into the Stormwater Operations Manual	• Provide copies of any/all procedure updates being included in manual or a copy of the created/updated Stormwater Operations Manual				X	
	3.D.3 – Develop video on most frequent illicit discharges and how to report them (Task 1.F.1)	TFISE, EMD	• Determine most frequent illicit discharges	• Provide link to video					X
			• Work with TFISE to develop video	• Provide distribution list and/or list of trainings/discussions where video is used					
			• Distribute/utilize video						
	3.E – Update and maintain the illicit discharge tracking program as necessary	EMD	• Document all complaints and input into MS4 web as they occur	• Provide copy of complaint reports	X	X	X	X	X
	3.F – Evaluate performing additional/routine Thermal Imaging scans to locate possible discharges and develop procedures as necessary	EMD, Utilities	• Determine if additional/routine scans will be beneficial/economically viable	• Provide summary of determination		X			
			• Determine protocols for how/when scans will be used.	• Provide copy of protocols/include in Stormwater Operations Manual					
			• Plan for future scans as necessary	• Provide schedule of future scan (if applicable)					
3.F.1 – Locate, prioritize, and minimize heating/cooling system leaks	Utilities	• Investigate as necessary to determine source of leaks impacting the storm sewer system	• Provide list of annual investigation efforts/repairs made/maintenance costs	X	X	X	X	X	
		• Develop a prioritized repair list	• Provide prioritized repair list						
		• Repair/maintain system as necessary to minimize leaks and impact to the storm sewer system							
3.G – Complete Greenhouse conversion to sanitary sewer	Facility Operations	• Divert remaining greenhouse drains from storm to sanitary	• Provide evidence of completion (project as-builts/invoices)	X					
3.H – Minimize cigarette butts entering storm drains	EMD, Facility Operations, Grounds	• Meet with UK Tobacco-free Taskforce to discuss cigarette butts entering storm drains, the impact on stormwater, and stormwater requirements.	• Provide sign-in sheet/meeting minutes/copy of invite			X			
		• Develop/implement bmp's to prevent cigarette butts from entering storm drains	• Provide list/description of bmp's implemented						
		• Coordinate with LFUCG at campus boundaries							
MCM 4	Construction Site Stormwater Runoff Control								
4.A. – Improve the project notification/review process, including timing of notification and inclusion of appropriate departments	CPMD/Facility Operations	• Update the Capital Projects Typical Projects Step List	• Provide copy of updated project steps list		X				
		• Educate CPMD Project Managers on updated project steps	• Provide copy of presentation and/or meeting sign in sheet for PM training						
		• Develop/verify Facility Operations procedures and update as necessary	• Provide copy of updated Facility Operations procedures						
4.B – Develop alternative to permit issuance as part of formal review process (i.e. – EMD Notification to Proceed)	CPMD, EMD	• Create project step that requires approval of water quality measures by CPMD and EMD before a project can proceed	• Provide procedures for approval process		X				
		• Create procedures for how step will be utilized and enforced							
		• Integrate step into MS4 web and project manager project step list							
4.C – Strengthen contract language requiring contractors to implement SWPPP controls, obtain stormwater permit coverage, and maintain compliance with stormwater requirements	CPMD	• Update contract language to provide for better enforcement capability and correction of construction site stormwater deficiencies	• Provide copy of updated contract language	X					
4.D – Perform audit inspections on construction sites monthly	CPMD	• Inspect all active construction sites once per month minimum	• Provide number of inspections conducted as well as copies of the inspections/annual inspection report	X	X	X	X	X	

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency				
					PY1	PY2	PY3	PY4	PY5
	4.D.1 – Update construction site inspection checklist as necessary	CPMD, EMD	<ul style="list-style-type: none">• Tailor existing checklist to better meet UK needs or develop new checklist• Update MS4 web with any changes	<ul style="list-style-type: none">• Provide copy of updated checklist		X			
	4.D.2 – Develop progressive/escalating enforcement policy and procedures for SWPPP/KYR10 violations (See task 3.A)	CPMD, EMD	<ul style="list-style-type: none">• In conjunction with contract language changes, develop enforcement policy and procedures for SWPPP violations.• Update design standards to clarify requirements and expectations of contractors	<ul style="list-style-type: none">• Provide copy of enforcement policy/procedures• Provide copy of updated design standards		X			
	4.D.2.a – Develop RFP for Stormwater Remediation and award contract	CPMD	<ul style="list-style-type: none">• Draft and post Stormwater Remediation RFP• Review proposals and select contractor• Utilize contractor to repair stormwater deficiencies on active construction sites as needed	<ul style="list-style-type: none">• Provide selected contractor information and description of duties• Provide list of construction sites contractor has been hired to repair along with list of deficiencies corrected		X			
	4.D.3 – Update/maintain inspection and enforcement tracking mechanism as necessary	CPMD, EMD	<ul style="list-style-type: none">• MS4 Web regularly updated with inspection and compliance information	<ul style="list-style-type: none">• Provide an up to date inspection report	X	X	X	X	X
	4.D.4 – Develop and implement an internal QC process to ensure site inspections are being performed and KYR 10 requirements are being met	EMD	<ul style="list-style-type: none">• Develop procedures for the auditing of UK's construction site stormwater inspection program to ensure MS4 permit requirements are being met• Conduct audit of program annually	<ul style="list-style-type: none">• Provide copy of procedures• Provide audit results/report		X	X	X	X
	4.E – Review construction plans to ensure SWPPP measures are being incorporated for all projects disturbing 1 acre or more	CPMD	<ul style="list-style-type: none">• Review all applicable construction project plans to ensure stormwater requirements are being met• Update MS4 web with review information	<ul style="list-style-type: none">• Provide list of all construction projects reviewed annually	X	X	X	X	X
	4.E.1 – Continue to utilize LFUCG's most recent stormwater requirements, including their Stormwater Manual and LID guidelines	CPMD, EMD	<ul style="list-style-type: none">• Update contract/design standards as needed• Review projects based on LFUCG guidelines• Update MS4 Web as needed	<ul style="list-style-type: none">• Provide copy of updated contract/design standards• Provide project review reports from MS4 web	X	X	X	X	X
	4.E.2 – Update SWPPP review checklists	CPMD, EMD	<ul style="list-style-type: none">• Adopt the LFUCG Land Disturbance Permit Application and Sediment Control Plan Checklist for project review, tailor to fit UK needs, and integrate into MS4 web• Develop addition checklist for SWPPP requirement review based on KYR10 and integrate into MS4 Web	<ul style="list-style-type: none">• Provide copy of updated checklist(s)		X			
	4.F – Have designated staff reviewing plans or performing inspections receive/maintain KEPSC Inspector Certification	EMD	<ul style="list-style-type: none">• Require designated staff to maintain current certification	<ul style="list-style-type: none">• Provide staff certification information	X	X	X	X	X
	4.G – Develop training program to educate contractors and designers on stormwater requirements	CPMD, EMD	<ul style="list-style-type: none">• Create training program procedures, goals, and guidelines	<ul style="list-style-type: none">• Provide copy of training procedures/goals/guidelines		X			
	4.G.1 – Develop UK construction process/requirement training	CPMD, Facility Operations	<ul style="list-style-type: none">• Develop training in year two• Conduct training annually (minimum)	<ul style="list-style-type: none">• Provide training presentation/ information• Provide training schedule & sign in sheets		X	X	X	X
	4.G.2 – Develop KYR10 Requirement training	CPMD, EMD	<ul style="list-style-type: none">• Develop training in year two/three• Conduct training with each project/annually (minimum)	<ul style="list-style-type: none">• Provide training presentation/ information• Provide training schedule & sign in sheets		X	X	X	X
	4.G.3 – Develop SWPPP development/requirement training	CPMD, EMD	<ul style="list-style-type: none">• Develop training in year three• Conduct annually/as needed	<ul style="list-style-type: none">• Provide training presentation/ information• Provide training schedule & sign in sheets			X	X	X
	4.G.4 – Work with the Kentucky Transportation Center to provide KEPSC Inspector Training on campus annually (minimum)	EMD	<ul style="list-style-type: none">• Contact the Kentucky Transportation Center and discuss possibility of providing training on campus annually• Hold training annually (if possible)	<ul style="list-style-type: none">• Provide summary of discussion• Provide training schedule (if applicable)		X			
	4.G.5 – Develop stormwater site inspection review training to be provided for each project	CPMD, EMD	<ul style="list-style-type: none">• Develop training in year three to be provided during the preconstruction meeting of each project	<ul style="list-style-type: none">• Provide copy of training• Provide list of projects and sign in/training acknowledgement sheet			X		
	4.H – Develop formal policy/guidance/procedure for small construction projects (<1 acre)	CPMD, Facility Operations	<ul style="list-style-type: none">• Create written procedures/policy for handling stormwater on small construction projects (review, approval, bmp selection, inspection, contractor training, etc.)• Put policy in place for small construction projects (as appropriate)	<ul style="list-style-type: none">• Provide copy of developed policies/procedures		X			

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency				
					PY1	PY2	PY3	PY4	PY5
MCM 5	Post Construction Stormwater Management								
	5.A – Continue the adoption of LFUCG Post Construction Requirements for New/Redevelopment	CPMD/EMD	• Require the submittal of a narrative and Executive Summary for new or re-development for all applicable projects	• Maintain submitted information for each project	X	X	X	X	X
			• Review projects based on latest LFUCG standards	• Provide copy of updated design and construction standards if applicable					
			• Update design and construction standards with any changes to post construction stormwater quality requirements as necessary	• Provide list of approved projects/ MS4 web report					
			• Update MS4 web with project information and approvals						
	5.A.1 – Review possibility of finalizing LFUCG Memorandum of Understanding	EMD	• Begin discussions with UK and LFUCG regarding the completion of a MOU between the two MS4's	• Provide summary of the determination and/or copy of the completed/signed MOU			X		
	• Complete and sign the MOU if applicable								
	5.A.2 – Evaluate the development of a Stormwater Masterplan for UK's main campus	EMD, CPMD, Sustainability, Facility Operations, Utilities	• Meet with applicable stakeholders to determine the need for a masterplan, it's components, and development	• Provide meeting minutes/summary, sign in sheet, and copy of masterplan or schedule (if applicable)			X	X	X
			• Begin development of masterplan or schedule development of masterplan as needed	• Provide copy of post construction BMP selection standards					
			• Create UK standards for stormwater post construction BMP selection (consider local water quality impairments)	• Provide update on Landscape Guidelines as policy determination along with procedures for enforcement of policy if applicable					
			• Evaluate adopting the UK Landscape Guidelines as policy and enforcement of the policy	• Provide procedures for SITES review process (or equivalent)					
	5.B – Review plans to ensure post-construction stormwater quality treatment has been addressed	CPMD/EMD	• Review plans in accordance with latest LFUCG requirements	• Provide report of reviewed projects	X	X	X	X	X
			• Document review of plans in MS4 Web						
	5.B.1 – Have those employees responsible attend training regarding plan review and post construction BMP's when available	CPMD/EMD	• Attend training when available	• Provide training information (dates, attendees, etc)	X	X	X	X	X
5.B.2 – Adopt the LFUCG Land Disturbance Permit Application and Sediment Control Plan Checklist for project review and tailor to fit UK's needs. (Task 4.E.2.a)	CPMD/EMD	• Checklist adopted, tailored to fit UK needs, and updated to include additional components for post construction requirements	• Provide copy of updated checklist		X				
		• Update MS4 Web with new checklist	• Provide MS4 web report and/or copies of completed project review checklists						
		• Begin using new checklist for project review							
5.C – Conduct inspections to ensure measures are being installed correctly	CPMD	• Conduct punch list walkthrough and/or NOT inspection for all new construction projects upon project completion	• Provide list of completed inspections	X	X	X	X	X	
• Document inspection in MS4 web									
5.D – Revise long-term post-construction stormwater quality BMP inspection program	Facility Operations, EMD, Utilities	• Inspect 20% of above ground post construction BMPs annually	• Provide report/list of all inspected bmp's along with findings	X	X	X	X	X	
		• Inspect 100% of underground BMP's annually	• Provide preventative maintenance program procedures/ guidelines						
		• Develop preventative maintenance program for all UK owned post construction BMP's in year two	• Provide copy of pm cost assessment						
		• Develop tracking system to assess long term pm cost for bmp's in conjunction with PM program	• Provide list of all maintenance performed on BMP's						
		• Assist EDR with development of PM program for EDR owned bmp's in year two	• Provide copy of EDR PM plan						
5.E – Incorporate all relevant post-construction information into new Stormwater Operations Manual	CPMD, EMD, Facility Operations	• Document all inspections and maintenance in MS4 web or effective equivalent							
		• Include all inspection, bmp maintenance procedures and schedules, site plan review/post construction processes, etc. in new Stormwater Operations Manual	• Provide copy of Stormwater Operations Manual/Procedures				X		
5.F – Advise administrative staff on the benefits of green infrastructure and the costs of construction and maintenance as compared to that of gray infrastructure. Do this prior to/in conjunction with tasks 5.A.2	EMD, Facility Operations Grounds, Sustainability	• Develop comparison of green vs gray infrastructure to include costs and benefits	• Provide copy of report/presentation		X	X			
		• Provide information to administrative staff via report and/or presentation							

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency				
					PY1	PY2	PY3	PY4	PY5
	5.G – Incorporate Stormwater Program into Sustainability Strategic Plan	EMD, Sustainability	• Update Sustainability Strategic Plan to include water section	• Provide copy of updated Strategic Plan	X				
MCM 6	Pollution Prevention/Good Housekeeping for Municipal Operations								
	6.A – Develop comprehensive UK Stormwater Operations Manual to include all policies/procedures/bmps utilized to meet permit requirements (all MCM's)	Facility Operations, Utilities, Athletics, EMD	• Integrate all existing procedures/ departmental policies into new manual • Update existing policies/procedures to improve permit compliance (Environmental Handbook, Factsheets, etc.) • Create new policies/procedures as necessary • Incorporate inventory of facilities, campus maintenance activities, and maintenance schedules	• Provide completed Stormwater Operations Manual					X
	6.A.1 – Update BMP O&M Manual to include specific maintenance requirements, calendar of required activities, and responsibilities for each existing post construction BMP	EMD, CPMD, Utilities, Facility Operations	• Compile all O&M Manuals for new and recently installed bmp's • Create bmp specific requirements based on manufacturer's recommendations and existing O&M manual • Create calendar for completing required maintenance activities for all bmp's • Assign/Update responsibilities for maintenance of each bmp • Incorporate/Coordinate with BMP inspection program (see task 5.D)	• Provide copy of O&M manual including the activity calendar and responsibility assignments to be integrated into comprehensive Stormwater Procedure Manual.				X	
	6.A.1.a – Determine which activities will be contracted out (e.g. underground bmp annual inspections and maintenance, pervious pavement cleaning) and issue RFP as necessary (See task 5.D – Preventative Maintenance Program)	Facility Operations, Utilities	• Determine which activities require contractor assistance • Draft and issue RFP • Hire contractor • Schedule and perform inspections and maintenance as needed	• Provide inspection reports and maintenance invoices		X	X	X	X
	6.A.1.b – Incorporate maintenance calendar into SAP Plant Maintenance system and create scheduled work orders for all activities	Facility Operations, Utilities	• Provide completed O&M Manual and calendar to Facility Operations/Utilities • Utilize information to create reoccurring work orders in PM system	• Provide example reports of SAP data/work orders				X	
	6.A.2. – Evaluate incorporation of SPCC program into Stormwater Program	EMD	• Determine if/how the two programs can be combined • Create plan to integrate two programs (as necessary)	• Provide determination and integration plan (if available)			X		
	6.A.3 – Develop procedures for rainwater harvesting system monitoring and reporting	Facility Operations, EMD	• Utilizing LFUCG requirements and manufacturers O&M manuals, develop departmental procedures for monitoring the use of harvesting systems. • Record monthly/annual use and total water harvested	• Provide water harvesting data for all systems		X	X	X	X
	6.A.4 – Create policy/procedures surrounding stormwater protection during emergency/unplanned events (water main breaks, etc.)	Facility Operations, Utilities, EMD	• Develop SOP for bmp implementation in response to emergencies/ unplanned events	• Provide copy of policy/ procedures		X			
	6.A.5 – Create policy/procedures for unknown spill cleanup (dumpsters, etc.)	Facility Operations	• Create SOP for response, notification, & proper clean-up of unknown spills	• Provide copy of policy/ procedures		X			
	6.A.6 – Develop SOP's for all Athletics activities that impact stormwater	Athletics, EMD	• Assess Athletics maintenance activities and determine which activities (e.g. irrigation, fertilization, materials storage, etc.) have the potential to impact stormwater • Develop SOP's/BMP's for those activities	• Provide fact sheets/SOP's			X		
	6.B – Update Employee Training Program	EMD, Utilities, Facility Operations, Athletics	• Evaluate employee training participation/documentation and improve as needed • Update/consolidate training as necessary • Train employees on new procedures developed during permit term • Integrate training prescribed actions into departmental procedures & employee behaviors/actions	• Provide list of updated training • Provide sign in sheets for any training conducted • Provide evidence of procedures that have been amended to alter employee behavior to protect stormwater					X

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency				
					PY1	PY2	PY3	PY4	PY5
	6.C – Evaluate pollution prevention measures for coal stockpiles and upgrade, improve, or maintain as necessary	Utilities, EMD	• Assess and improve coal pile discharge at Wildcat Court • Evaluate remaining coal pile bmp's for effectiveness	• Provide assessment information and list of replacement bmp's installed				X	
	• Determine alternate bmp's for ineffective bmps • Install new bmp's as necessary								
	6.D – Develop Waterfowl Management Program in response to local impairments (See task 8.C)	Facility Operations	• Assess waterfowl impact on water quality • Assess and move forward with alternative management techniques for Gluck Pond • Develop area specific Waterfowl Management Program for impacted areas of campus as needed	• Provide assessment results • Provide description and photos of installed bmp's and measures put in place at Gluck Pond • Provide copy of management plan				X	
6.E – Develop steam/chilled water infrastructure repair priority list (See task 3.F.1)	Utilities	• Create list of required maintenance based on leak detection efforts	• Provide list of annual investigation efforts/repairs made/maintenance costs • Provide prioritized repair list	X	X	X	X	X	
6.F – Create procedures to address/repair stormwater issues/problems on campus once they are identified	EMD, Utilities, Facility Operations, Athletics	• Create general procedures for notification, responsibility assignment, bmp installation (temporary and permanent), repair/resolution, timeframes, and reporting. • Add procedures to the Stormwater Operations Manual	• Provide copy of procedures				X		
6.G – Evaluate changes to administrative regulation 6:3 with regard to stormwater during upcoming review cycle in 2021	EMD	• During regular administrative regulation review cycle, determine if administrative regulation 6:3 needs to be amended based on stormwater program performance.	• Provide assessment summary and/or any administrative regulation updates				X		
SWQMP Review and Mod									
	7.A – Review SWQMP annually and update as required by permit	EMD	• Determine completion of SWQMP tasks annually	• Provide a summary of the SWQMP assessment along with a description of any modifications made. Include a description of any replacement BMP's along with an analysis of why the former bmp was ineffective or infeasible.	X	X	X	X	X
			• Evaluate bmp effectiveness and scheduling	• Provide information regarding any modifications to the schedule					
			• Modify SWQMP as needed (in accordance with permit)	• See the permit for more details regarding the information to be included with this task					
TMDL's & Impaired Waters									
	8.A – Implement BMP's in Big Elm Fork Watershed in response to recent impairment	Utilities, Athletics	• Continue sewer line evaluation/cross connection review • Seal all manholes in Shawneetown/Greg Page area as needed • Evaluate development of BMP's to prevent discharges of grey/blackwater from tailgating RV's. Implement as necessary. (Coordinate with Task 1.C.1.a) • Perform monitoring to evaluate bmp implementation/need • Develop additional bmps as necessary	• Provide assessment reports/invoices/photos • Provide photos/description of any bmp's implemented • Provide monitoring results/assessment	X	X	X	X	X
	8.B – Begin/continue watershed focused monitoring as appropriate (see task 9.A)	EMD	• Sample watershed dry weather flow to determine contribution to local impairments and direct bmp implementation (as appropriate)	• Provide sample results/analysis and a description of any action taken as a result		X	X	X	X
8.C – Continue goose population control efforts at Gluck Pond and FEMA Basins/Big Elm Fork (See task 6.D)	Facility Operations	• Reduce waterfowl populations	• Provide a description of efforts taken along with an assessment of waterfowl populations	X	X	X	X	X	

Activity	2018 SWQMP Tasks	Responsibility	Measurable Goal	Evidence of Completion	Deadline/Frequency				
					PY1	PY2	PY3	PY4	PY5
Monitoring Plan									
	9.A – Assess need/desire/ability to develop and implement watershed focused monitoring plan with emphasis on local watershed impairments	EMD	• Evaluate the development of a watershed focused monitoring plan	• Provide copy of Monitoring Plan, QAPP, DOW approval, and Water Quality Monitoring Data/Analysis or summary of determination to not pursue watershed focused monitoring		X	X	X	X
			• Create/Update monitoring plan as necessary						
• Coordinate with LFUCG to determine their monitoring locations, monitoring dates, constituents, and historical data									
• Develop/Update QAPP in association with monitoring plan as necessary									
• Submit monitoring plan and QAPP to DOW for approval if/when developed									
• Begin collecting water samples in accordance with written monitoring plan and QAPP if/when developed									
9.B – Evaluate/Plan completion of campus research monitoring database	TFISE, EMD	• Work with TFISE Water Working Group to evaluate and complete the campus research monitoring database (as needed)	• Provide summary of actions related to the database and link to completed database if applicable					X	
Fiscal Req.'s									
	10.A – Perform assessment to determine if all departments are adequately funded to perform stormwater duties as assigned	Facility Operations, Utilities, Athletics, TFISE, EMD	• As work is being done to complete SWQMP tasks, determine if departments are properly funded to accomplish tasks and reoccurring stormwater responsibilities	• Provide annual stormwater budget information	X	X	X	X	X
			• Develop stormwater budget for Utilities Division						
• Assess Grounds Department's ability to perform BMP/storm drain maintenance									
• Develop initial/reoccurring training budget for specialized maintenance needs (if/as needed)									
Reporting Req.'s									
	11.A - Develop and submit the annual report by April 15th	EMD	• Compile information regarding SWQMP task completion along with any additional stormwater efforts	• Report submitted annually by April 15 th	X	X	X	X	X
	11.A.1 – Develop reporting system for those providing annual report info	EMD/TFISE	• Have stakeholders provide evidence of task completion along with any additional stormwater effort information in a timely manner	• Information received and included in annual report	X	X	X	X	X