

ENVIRONMENTAL QUALITY & PUBLIC WORKS COMMITTEE: Stormwater (SW) Priority Capital Projects List Update

August 20, 2019

This project was undertaken in connection with the settlement of an enforcement action under the Clean Water Act, United States et al. v. Lexington-Fayette Urban County Government, brought on behalf of the U.S. Environmental Protection Agency.



LEXINGTON

AGENDA

- Stormwater (SW) Priority Project List Overview
- 2018 -2019: Positive Efforts/Outcomes
- 2018 – 2019: Excessive Rain Presents Challenges
- Questions



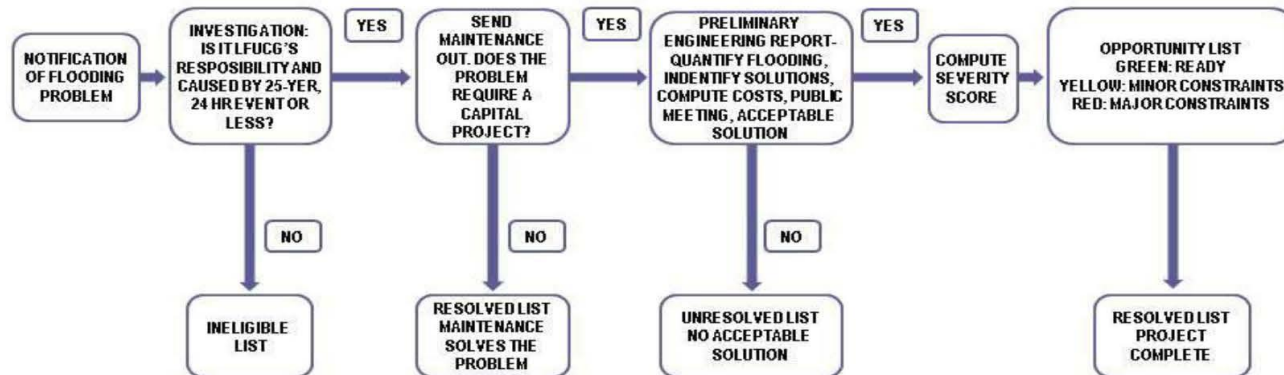
Stormwater (SW) Priority List

- 1996 – SW Priority List concept developed at request of the Urban County Council.
- 2012 – SW Priority List approach modified by a Consent Decree deliverable. Modification was “endorsed” by this committee.
- List updated annually with link posted on LFUCG Division of Water Quality webpage.



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Severity Score Process





HOW DOES A PROPERTY GET CONSIDERED FOR INCLUSION ON THE STORMWATER PRIORITY LIST?

For storm events less than the 25-year, 24-hour event (5.23 inches) – at least one of the following conditions must be met:

- Structure flooding (surface water entering a structure through an opening such as a door, window, or vent); or
- Street/road flooding with either greater than 1 foot of water in the driving lane or the crown of the road is not visible.



NEW PROJECTS POLICY

Since 2001, the policy has been that new projects added to the Stormwater Priority List must “waitlist” for two (2) years before any action is taken.

Shaping Our Community

ENGINEERING

MEMORANDUM

To: Mayor Pam Miller
Urban County Council

From: Darryl G. Bennett, P.E.
Engineering Section Manager

Date: December 20, 2001

Subject: December 2001 Stormwater Update for Council

Procedure requires that the Division of Engineering report to Council every December about its stormwater activity. Following is the latest status for the entire stormwater priority list. Included are specific pages describing status and activity of bond issue projects and those paid for by the general fund. You will also find a list of projects that we are recommending for removal from the priority list per the criteria submitted to the Planning Committee in August.

The final eleven pages are the updated master list of stormwater priority projects. This list was originally presented to Council in 1996 and had a total of 165 projects listed. Of that number one hundred were known or were suspected to include home flooding or serious street flooding and were placed in a higher priority group. We have concentrated on sixty-one projects in that group: 13 have been completed; 10 are under construction or have been bid; 17 are in design phase; 5 are in the property acquisition stage; and 16 have been recommended for removal from the list.

Since the original list was published there have been several requests for additional projects. In 2000 five new projects were recommended for addition to the list, and this year three new projects are recommended. Home flooding was the primary criteria for adding these projects. **These eight projects are specifically noted on the master list. Per procedure, a new project may not be addressed until it has been on the list for two years, regardless of its hierarchy.**

The Division of Engineering has continued with other programs directly related to stormwater and flooding issues. Of note is the Cooperative Floodproofing Program, which continues to assist individuals who have home flooding problems. Since the program's inception in 1992, financial aid has been given to homeowners at 291 different locations, with a total government expenditure of \$1,039,290.

The Stormwater Manual was adopted by Council and became effective this year. This manual controls usage in and around the waterways of Fayette County. Its use will reduce future problems with both quantity and quality issues.



2018 - 2019 Outcomes “The Good”





CONSENT DECREE OBLIGATION- SW CAPITAL

- Amount **spent** (2011-present) on completed Stormwater Priority Capital Projects- **\$18,500,000**
- Amount **budgeted** for currently active Stormwater Priority Capital Projects- **\$4,260,000 (WGPL, Southland Park/Yuma/Tucson, Woodhill/Peachtree, Elizabeth Street)**
- Amount **needed** to meet the Consent Decree Stormwater Priority Capital Project expense deadline- **\$7,240,000.**

Stormwater Priority Projects
 Remaining Projects with Drainage Basin Groups

The map displays the City of Cary, North Carolina, with various drainage basins highlighted in different colors. Each basin is associated with a specific stormwater project, labeled with a project number, name, and estimated cost. The projects are distributed across the city, with some basins containing multiple projects. The map also shows major roads, water bodies, and other geographical features.

Legend:

- Yellow circle: Structure
- Blue line: Underground Waterline
- Blue line: Water Basin (Armed Pipe)
- Blue line: Waterbody
- Blue line: Waterway
- Yellow line: Stormwater Priority Project Groups
- Yellow line: Project Drainage Basins

Project Details:

Project #	Project Name	Estimated Cost
#77	Viley Rd @ Old Frankfort Pike	\$328,000
#78	Parkside Dr @ Shandon Dr	\$2,434,000
#79	Rosemary Ave/ Bermuda Ave	\$525,000
#80	Eastland Park Tributary @ Croyle Dr	\$1,600,000
#81	Joyland	\$1,516,000
#84	Brimwood Dr	\$563,000
#87.5	Rogers Rd / 2300 Block	\$535,000
#88	South Elkhorn	\$650,000
#88.4	Lane Allen Rd/Darien Dr	\$1,592,000
#89	Aylesford Park	\$6,600,000
#90	Ashland Park	\$5,689,000
#91	Notional Ave	\$15,271,000
#92	West Gardenside	\$2,848,000
#93	Vernon/Hollywood	\$10,700,000
#94	Stonewall Community	\$1,500,000
#95	Longview Dr East	\$1,506,000
#96	N Limestone	\$2,345,000
#97	Ashland	\$19,500,000
#98	Mentelle Park	\$469,000
#99	Picadome	\$5,600,000
#100.4	Wolf Run/Southland Dr	\$9,000,000
#101.5	Aracida Park/Barberry Ln	\$2,048,000
#102.5	Lafayette Pkwy/ Southland Dr	\$5,600,000
#103	Barkley Dr/ Southgate Dr	\$5,600,000
#104	Tucson	\$66,000
#105	Idle Hour Dr	\$750,000
#106.5	Peachtree Rd	\$921,000
#107	Woodhill Park	\$2,079,000
#108	Gainesway Dr	\$1,719,000

Table 2: Stormwater Priority Projects, NOT LOCATED ON MAP

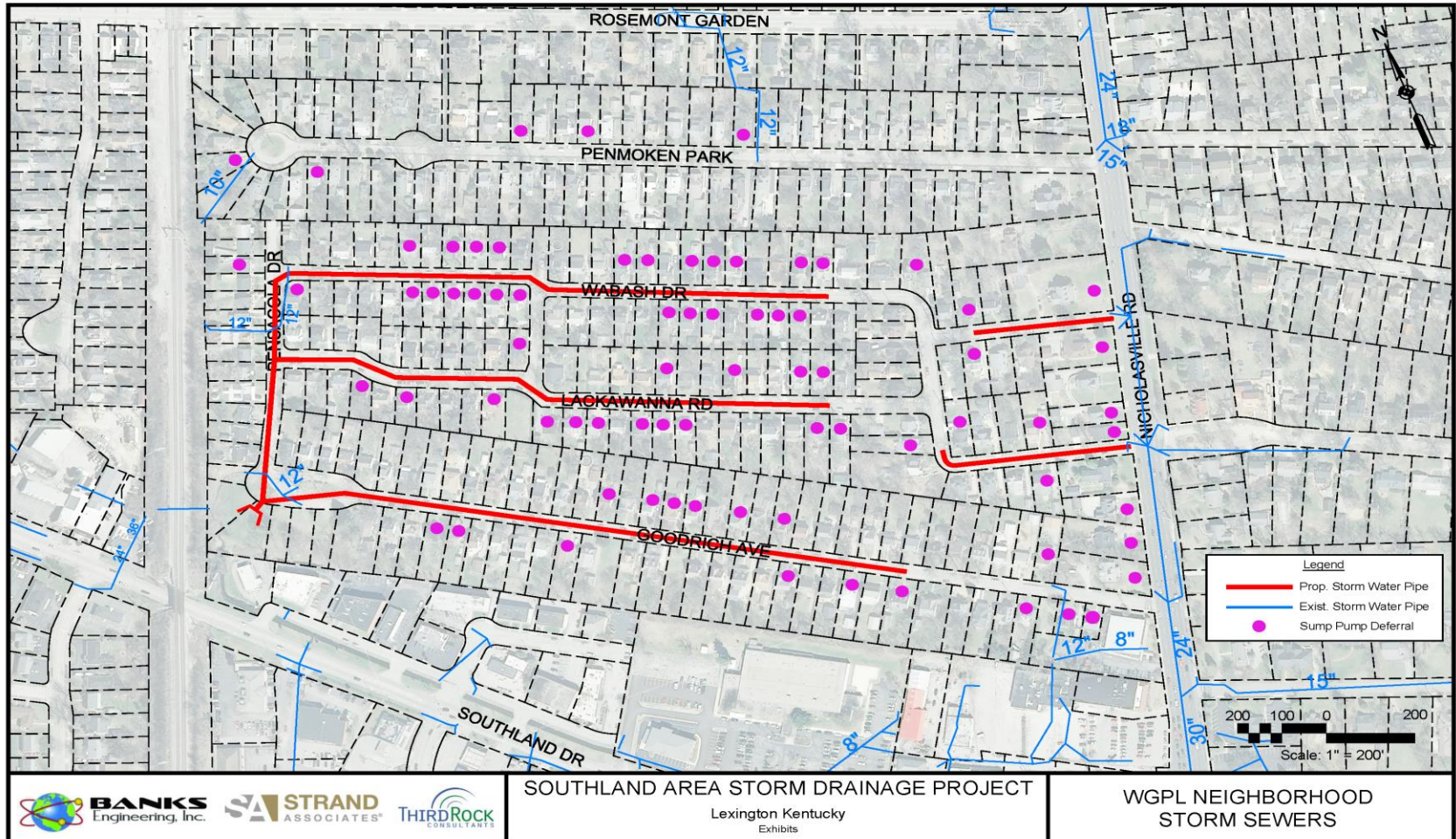
Project #	Project Name	Estimated Cost
#109	High St. / Shandon Dr	\$1,516,000
#110	High St. / Shandon Dr	\$1,516,000
#111	High St. / Shandon Dr	\$1,516,000
#112	High St. / Shandon Dr	\$1,516,000
#113	High St. / Shandon Dr	\$1,516,000
#114	High St. / Shandon Dr	\$1,516,000
#115	High St. / Shandon Dr	\$1,516,000
#116	High St. / Shandon Dr	\$1,516,000
#117	High St. / Shandon Dr	\$1,516,000
#118	High St. / Shandon Dr	\$1,516,000
#119	High St. / Shandon Dr	\$1,516,000
#120	High St. / Shandon Dr	\$1,516,000

ACTIVE SW PRIORITY PROJECTS

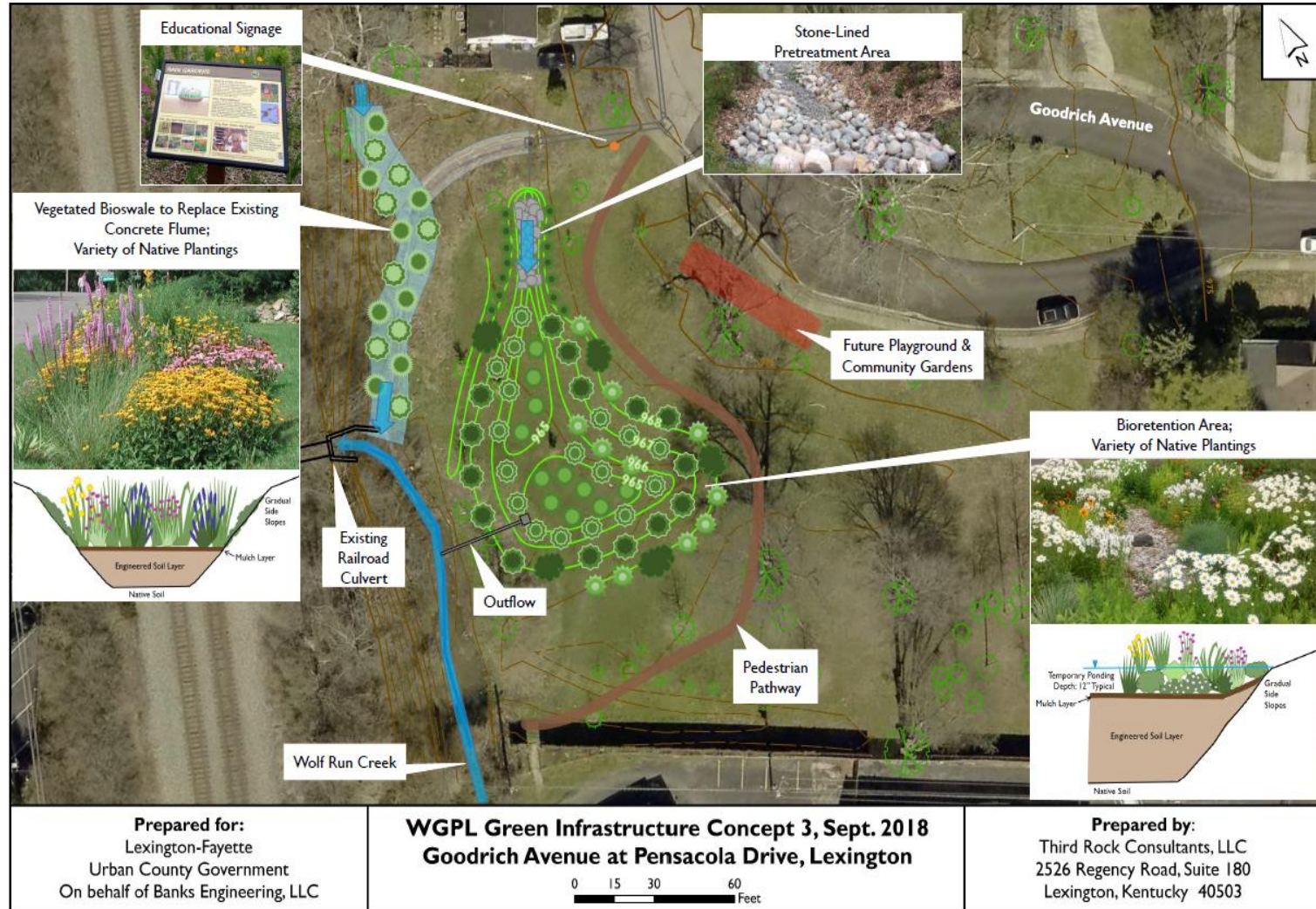
- Southland/Wolf Run Project (consolidation of projects #66.6, #71, #80.3, #80.6 and #85.5). Total estimated cost \$10 M.
 - The WGPL project (under construction) has an estimated cost of \$1,100,000.
 - The WGPL Green Infrastructure project has an estimated cost of \$160,000. Construction to begin late summer 2019.



WGPL Storm Sewer Project Area



WGPL GREEN INFRASTRUCTURE CONCEPT



ACTIVE SW PRIORITY PROJECTS

- Woodhill/Peachtree Project (consolidation of projects #71 and #72). Total estimated cost - \$1.6 M
 - The Woodhill/Peachtree Project is to construct a parallel relief storm sewer system from Palumbo Drive to near the intersection of New Circle Road and Woodhill Drive.
 - Construction to begin late summer 2019.

ACTIVE SW PRIORITY PROJECTS

- The Elizabeth Street project is a continuation of project #60 after receiving reports of flooding at the intersection of Elizabeth St. and Forest Park.
 - The Elizabeth Street project has an estimated cost of \$220,000.
 - Construction is expected in fall 2019 or spring 2020 (utility conflicts to be resolved).

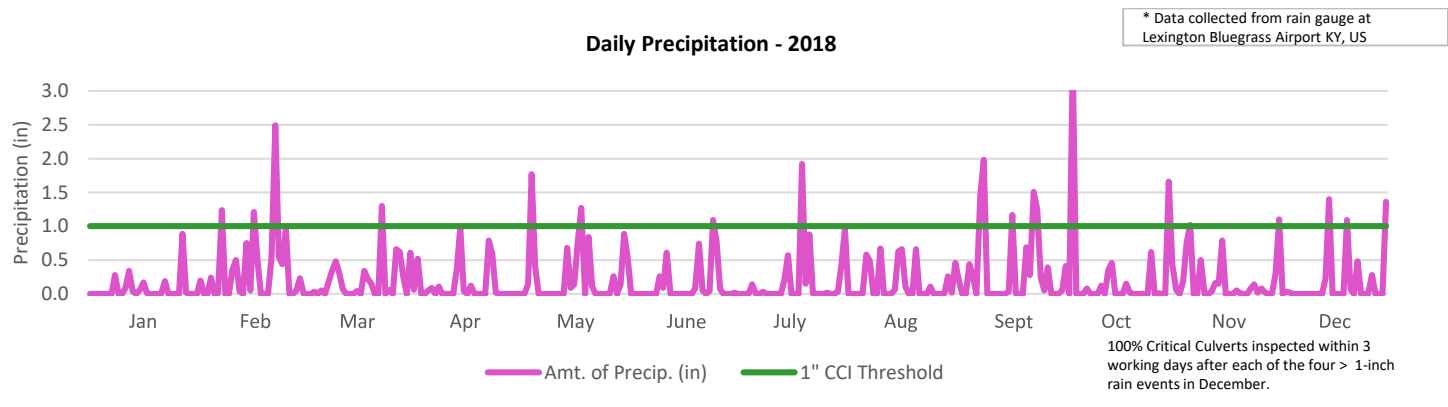
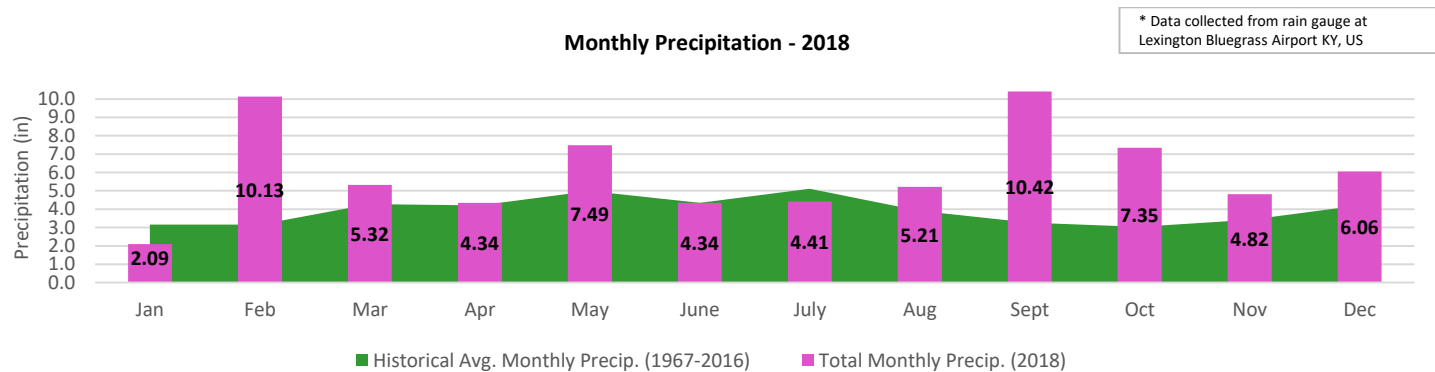
ELIZABETH STREET/FOREST PARK PROJECT



2018 - 2019 Outcomes “The Not So Good”



2018 Rainfall Stats



19 days with >1" in 2018 (0 events in Jan, Apr, Jun, & Aug; but 5 events in Sep)

2018 Rainfall Stats

Top Ten Wettest Years

71.98"	2018
66.35"	2011
65.76"	1935
62.44"	2004
61.36"	1890
60.52"	1898
60.09"	1974
59.89"	2015
59.53"	2013
59.13"	1997

Top Ten Wettest Days

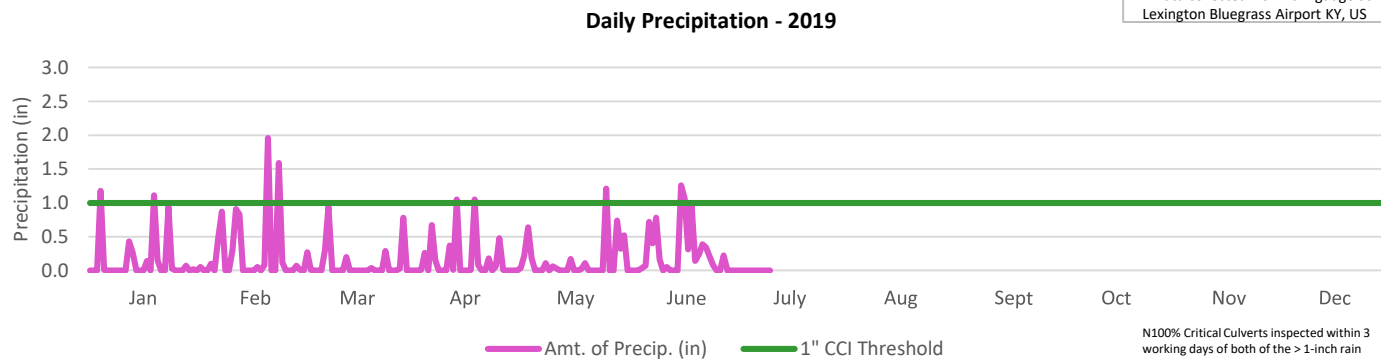
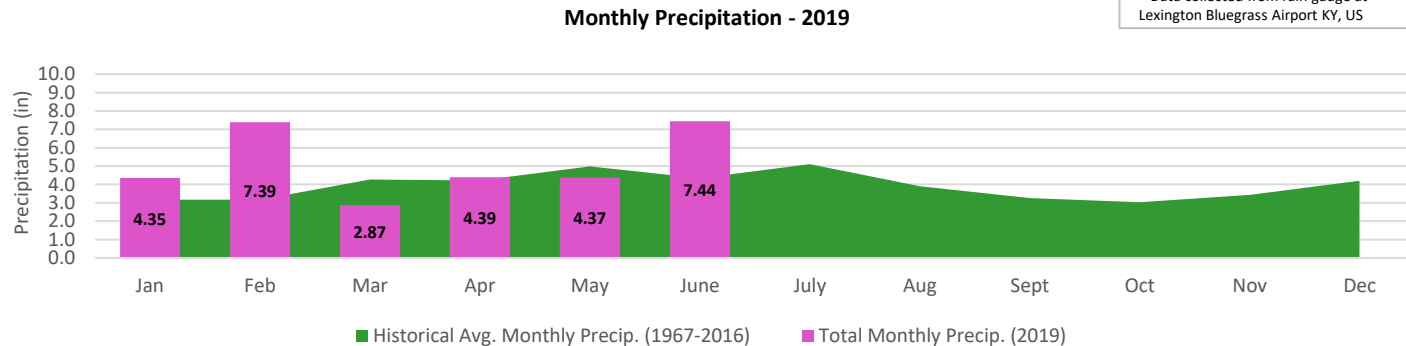
8.04"	August 2, 1932
5.56"	March 1, 1997
5.45"	September 3, 1922
5.38"	August 10, 2014
5.17"	April 3, 2015
5.04"	June 29, 1998
4.99"	June 18, 1992
4.76"	September 23, 2006
4.38"	July 20, 1998
4.33"	October 23, 2007

Longest stretch in 2018 without recordable precipitation = 8 days
(two occurrences: 4/26 - 5/3; 6/2 - 6/9)

Longest stretch in 2018 with recordable precipitation = 12 days
(3/24 - 4/4)

Number of days in 2018 with measurable precipitation = 172 days (47%)
Number of days in 2018 with recordable precipitation = 211 days (58%)

2019 Rainfall Stats



9 days with >1" in 2019: January (2), February (2), April (2), May (1), June (2)

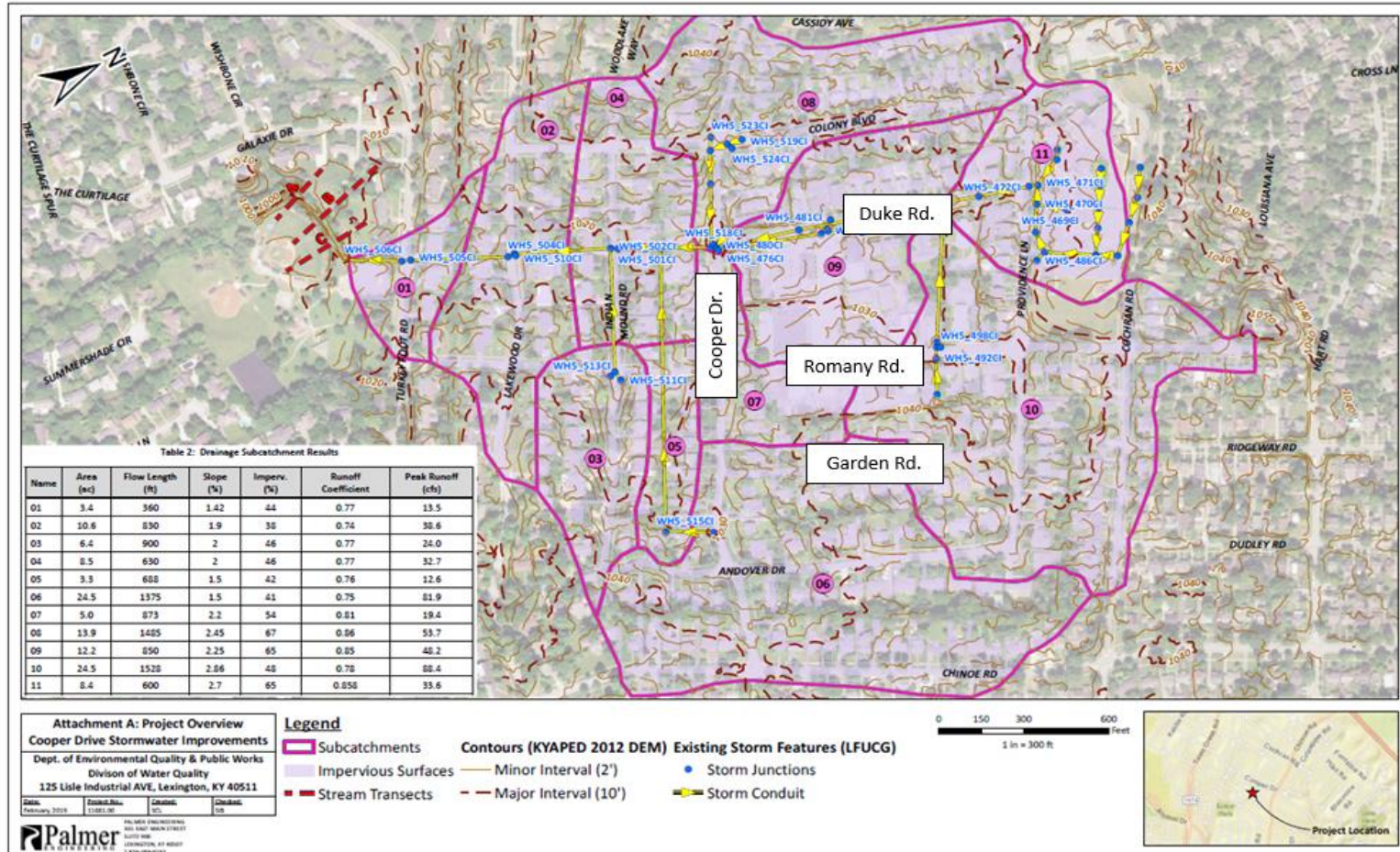


POTENTIAL PROJECTS TO BE ADDED TO SW PRIORITY PROJECT LIST

Cooper Drive - The Preliminary Engineering Report indicates that undersized pipe results in street flooding in the Copper Dr./Romany Rd./Duke Rd. area. Estimated cost \$2,400,000. This project will be eligible for action in 2022.



Cooper Drive Project Area





POTENTIAL PROJECTS TO BE ADDED TO SW PRIORITY PROJECT LIST

Ohio Street - After reported flooding of the intersection of East 3rd & Ohio in July 2019, portions of the storm system were CCTV inspected for defects. A sanitary sewer line was found penetrating a storm manhole. DWQ will hire an indefinite service consultant to prepare a Preliminary Engineering Report containing alternate solutions.

Nuisance/Maintenance Issues

- Before a problem becomes a capital project, it is first checked as a maintenance problem.
 - Nuisance ponding of water on roadway?
 - Repair and/or cleaning of existing storm infrastructure, detention basin structural components (risers, spillways, paved ditches, etc.)?
- Small nuisance relief/repair projects completed include Charlbury Court, Palomar Cove, Bellefonte Drive, Glendover Road.

WRAP UP

SW PRIORITY PROJECTS LIST

FY20 FOCUS

- New projects will be added if they meet the documented criteria for inclusion on the list.
- Many expensive and technically challenging projects are and remain on the current list.
- Under the Consent Decree, LFUCG committed to spend \$30M on Priority Stormwater Capital Projects within a 10 year period. **Completion deadline is January 3, 2021.**



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QUESTIONS?

