Lancaster County Council Infrastructure and Regulation Committee Special Meeting Agenda

Wednesday, August 9, 2017

County Council Conference Room
County Administration Building
101 N. Main Street
Lancaster, SC 29720

1. **Call to Order Regular Meeting – Committee Chair Larry Honeycutt** **1:30 p.m.**

2. **Approval of the agenda** *[deletions and additions of non-substantive matters]*

3. **Citizens Comments**

4. **Discussion / Action Items**

   a. Discussion of Stormwater Plan – ***John Gast/Matt Crawford – pgs. 2-13***

5. **Adjournment**

Anyone requiring special services to attend this meeting should contact 285-1565 at least 24 hours in advance of this meeting.

Lancaster County Council Infrastructure and Regulation Committee agendas are posted at the Lancaster County Administration Building and are available on the Website: www.mylancastersc.org

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Summary of Information concerning Lancaster County, SC: Panhandle Stormwater Utility

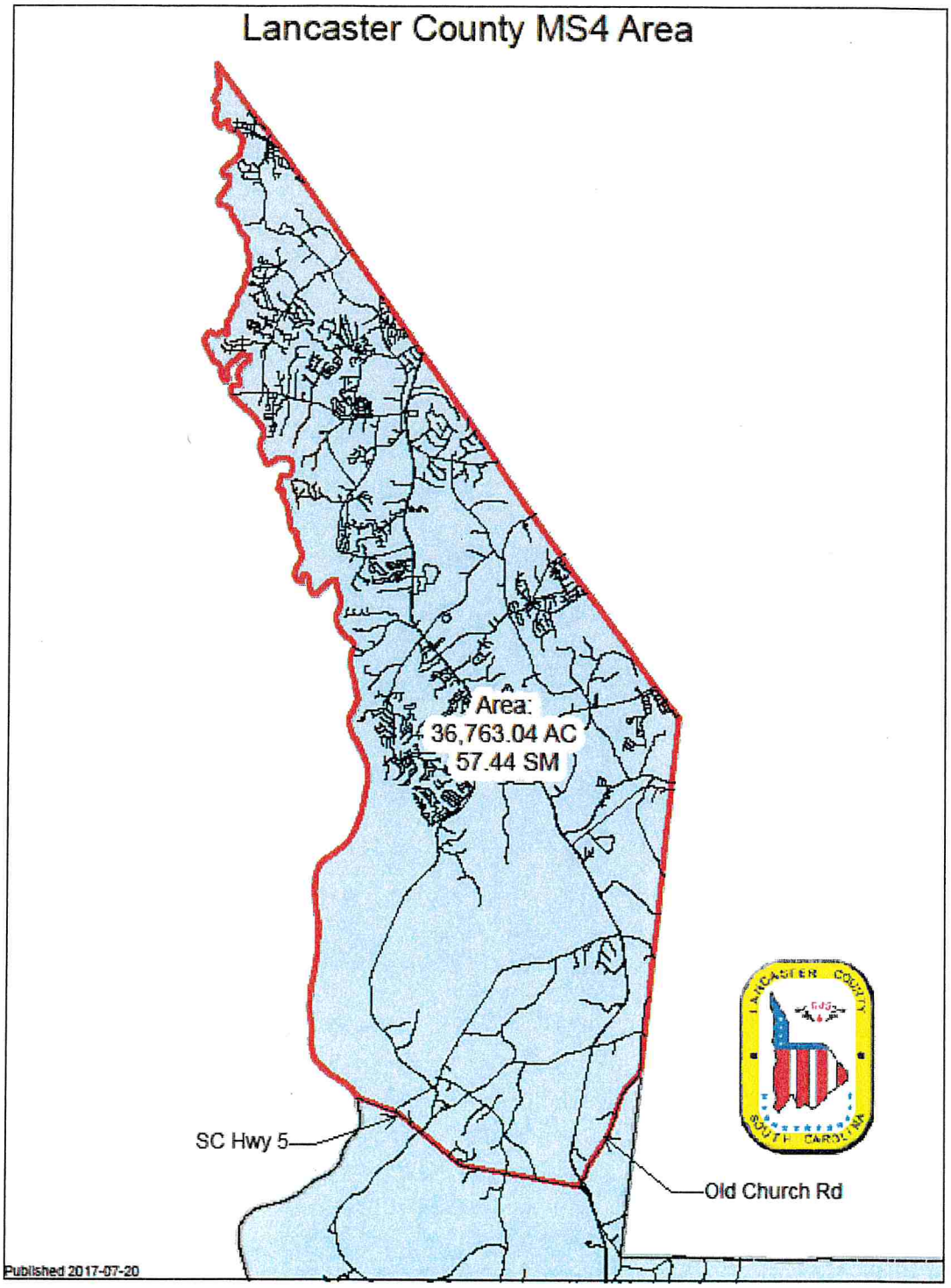
The Environmental Protection Agency (EPA), established the National Pollution Discharge Elimination System (NPDES), program to implement the Clean Water Act (CWA), of **1972**. It was originally applied to "*point source*" discharges such as Waste Water Treatment plants (WWTPs) from sewage collection systems. The **1987** amendments to the Clean Water Act created an unfunded mandate for local communities to reduce pollution in stormwater runoff. This unfunded mandate is known as the NPDES Municipal Separate Storm Sewer System (MS4) program. The NPDES MS4 program was first implemented in large (>250,000 population) municipal stormwater operations in **1993**. The South Carolina Department of Health and Environmental Control (DHEC) administers the NPDES program in South Carolina. Each regulated community with a Municipal Separate Storm Sewer System (MS4), has a specific permit with DHEC. All regulated communities are required to comply with the program or risk fines and penalties as well as losing all federal assistance for improvements to roads, bridges, airports, disaster relief, etc.
When a community's population density exceeds 1,000 persons per square mile and a population of 50,000 regionally regardless of state lines, EPA mandates inclusion in the NPDES MS4 program. According to the latest US Census data, Indian Land now meets the minimum population density requirements noted above. Therefore, DHEC/EPA have determined that 57.4 square miles of land bounded by Highway 5 and Old Church Road on the south, the N.C. border on the north and east, and York County in the west will be a regulated Small Municipal Separate Storm Sewer System (SMS4). Van Wyck does not meet minimum density requirements, but is included in the SMS4 boundaries. Van Wyck will likely experience increased growth in the future and it also contains "sensitive" waters. Therefore, it is included in the new regulated SMS4 boundary area.

There are many aspects to local community compliance with the NPDES SMS4 program, which can be broadly grouped into six general categories: 1. Public education and outreach, 2. Public participation and involvement, 3. Illicit Discharge Detection and elimination, 4. Construction Site runoff control, 5. Post-Construction site runoff control, 6. Pollution Prevention/ Good Housekeeping (*Municipal Operations*). Each of these six program goals require specific steps and objectives to meet compliance with South Carolina Department of Health and Environmental Control and federal Environmental Protection Agency requirements.

Many water bodies in the panhandle are considered "*sensitive*" per SCDHEC and EPA criteria, these include;

- McAlpine Creek and Catawba River have high levels of Eschericia Coli (ECOLI), and decreased microinvertebrate (BIO) levels, and are listed as impaired per DHEC 303d list. Sugar Creek is also impacted by increased Copper (CU), as well as ECOLI and BIO which is impaired per DHEC 303d list.
- Six Mile Creek, Twelve Mile Creek, and Waxhaw Creek are on a Total Maximum Daily Load (TMDL) status for fecal coliform. Lancaster County must implement measures to limit fecal coliform releases in these watersheds to improve the water quality in these creeks which are located within the new SMS4 boundary.
- Indian Land and Van Wyck both contain critical habitat for the Carolina Heelsplitter which is an endangered species of mussel. These mussels require cool and clean streams to survive and thrive.

A Stormwater Utility is the mechanism Lancaster County has chosen to fund and implement the panhandle SMS4 program. The utility will be responsible for implementing and monitoring the minimum control measures noted above. A stormwater utility program will enable the County to take a proactive approach to stormwater management. By establishing a dedicated funding source through stormwater fees, the County can ensure that revenue required to manage and maintain this important system is available. The fees will support a comprehensive stormwater management plan to minimize pollution and maximize safety through reduced flooding.


Lancaster County MS4 Area
Area:
36,763.04 AC
57.44 SM
SC Hwy 5
Old Church Rd
Published 2017-07-20

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Frequently Asked Questions:

Why is Lancaster County implementing a Stormwater Utility?

Lancaster County is responding to a state and federal mandated law and there are no other available resources to fund this program. Lancaster County does not want to cut service to other programs and shift resources to absorb the costs. Stormwater Utilities have been used by most local government agencies to fund their NPDES MS4 programs. It is not a tax, but a user fee. Property owners within the limits of the new panhandle Small Municipal Storm Sewer System (SMS4) will all pay an equitable rate. The County is responsible for managing all aspects of stormwater within its jurisdiction. The County owns, operates, and maintains drainage facilities within the public right-of-way along County roads. The County does not own or maintain drainage facilities that are on private property or under the jurisdiction of other entities, (i.e., SC Department of Transportation, City of Lancaster).

How does the County currently pay for its stormwater system?

Storm sewer system improvements and maintenance has historically come from the general fund where various needs and services compete for funding each year in the budget process. The general fund includes, police, fire, roads, bridges, and other critical services the County provides. The County has done a good job managing the storm sewer system on a very limited budget, but the new requirements will far exceed the previous storm sewer expenditures. Storm water funding has historically been a lower priority than other urgent life safety needs. The Stormwater Utility will create a separate fund to meet the new regulatory requirements.

What is the difference between: Stormwater/ Potable Water/ Wastewater?

- Stormwater is the fraction of rainfall or snow melt that does not infiltrate into the ground, is not taken up by vegetation, or evaporate which becomes "runoff" that flows downhill. Stormwater is NOT treated or cleaned in any way, it simply flows back to the downstream surface water body.
- Potable water or drinking water is what comes out of the faucets and is used for drinking, bathing, washing, etc. Public potable water systems are treated and chlorinated to minimum health standards and distributed in pressurized systems to customers. The system pressure minimizes potential contamination and is a customer convenience. Potable water system pressure is typically set and maintained in elevated water storage tanks.
- Wastewater is composed of the drainage from residential and commercial plumbing system drains. After potable water is used and washed down the drain, it becomes wastewater. Public wastewater collection systems flow to a Wastewater Treatment Plant, typically adjacent to a river, where it is treated and cleaned to minimum standards and released back into the river.
- Stormwater, potable water, and wastewater are different in composition and are all conveyed in completely separate and distinct systems.

Does stormwater runoff change in urban environments?

Yes, it is typically much more polluted than runoff in undisturbed landscapes. In natural undisturbed areas, the soil absorbs much of rainfall and deep rooted plants help break up the ground to hold the moisture in the soil. These

undisturbed soils act as a soil sponge which may be up to 15 feet deep. The soil sponge in urban environments is typically only a few inches deep as most turf grass root systems are less than 4 inches. In urban environments, two potential hazards are created:

- Flooding from fast runoff during or after a rain. (due to development)
- Increased pollution to adjacent receiving water bodies because pollutants are easily washed off of the urban landscape.

Impervious surfaces such as rooftops, streets, sidewalks, and parking lots cannot easily absorb water. When a pollutant is spilled on an impervious surface, it stays there until the next rain washes it away. Stormwater runoff during and after a rain storm can wash sediment, oil, grease, toxins, metals, pathogens, detergents, pesticides, fertilizers, and other pollutants into nearby water bodies. Stormwater runoff receives NO treatment prior to discharge back into the environment. These pollutants reduce the recreational use of waters and adversely affect the health and biological diversity of the fish and wildlife living in and around our streams, ponds, and lakes. The initial runoff associated with the first rainfall of 1-inch or less is known as the "first flush" because it picks up and carries the latent pollutants which have been deposited on urban landscapes. The "first flush" typically contains the highest concentration of pollutants in the runoff event.

What is the purpose of the NPDES SMS4 Stormwater Program?

The purpose is to create a team of professionals working to improve quality of life by improving water quality and protecting our natural resources. The local Stormwater Utility team will also work to minimize flooding impacts and act an environmental resource for the community. Another primary objective is to ensure the community is compliant with environmental regulations implemented by Environmental Protection Agency (EPA) and South Carolina Department of Health and Environmental Control (DHEC).

What is the Lancaster County, i.e. "Panhandle" Small Municipal Separate Storm Sewer System, (SMS4)?

A SMS4 is defined as the system of publically owned stormwater conveyances including roads, curbs, gutters, ponds, ditches, or pipes that discharge directly to surface waters. These SMS4 runoff systems are designed or used solely for collecting or conveying stormwater runoff. The SMS4 is not necessarily continuous. Meaning that Lancaster County may own or control less than 5% of the Stormwater conveyance system. The public system may only be 50-feet long at a stream crossing under a roadway every few miles along a stream corridor. The balance of the conveyance system (stream) is on private property. However, Lancaster County is held responsible for any pollution release from the entire drainage area to the waters within the SMS4. These waters collect runoff from public and private lands.

What are sensitive waters?

Sensitive Waters can be defined as clean waters which allow specific organisms to thrive or dirty waters impacted by various pollutants. Ironically, the Lancaster County panhandle SMS4 has both. The stream habitat in the panhandle SMS4 is recognized as supportive of the Carolina Heelsplitter which require clean shaded streams to survive. The Carolina Heelsplitter is an endangered species of mussel which has been found in Lancaster County. It is also noted that

three streams within the SMS4 boundaries are listed on the EPA/DHEC 303d impaired waters list: Sugar Creek, McAlpine Creek, and the Catawba River. Three Streams within the SMS4 have a Total Maximum Daily Load (TMDL) established in 2005 for high levels of fecal coliform: Six Mile Creek, Twelve Mile Creek, and Waxhaw Creek.

Why is Lancaster County panhandle included in the NPDES SMS4 program?

EPA/DHEC used a "*balanced criteria*" of the following six designation factors:

- Discharge to sensitive waters
- High population density
- High growth or growth potential
- Contiguity to an Urbanized Area
- Significant contributor of pollutants to waters of U.S.
- Ineffective protection of water quality concerns by other programs

The Lancaster County Panhandle SMS4 meets all criteria noted above.

How will the money collected by the Stormwater Utility be used?

The revenues generated by this fee will be used to fund all stormwater related activities in the panhandle SMS4 service area. This includes protection of environmental resources, plan review, observation of construction projects, planning for future impacts, maintenance and repairs of stormwater system infrastructure, design and construction of capital improvement projects, or stream buffer property acquisitions. The fee will also pay for compliance with the NPDES SMS4 program requirements per state and federal regulations. In general terms, program compliance means implementation of six minimum control measures:

- Public Outreach and Education
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management
- Pollution Prevention and Good Housekeeping (Municipal Operations)

Each of the six program areas require an implementation plan and ongoing monitoring of Best Management Practices (BMP) to achieve the program goals. The County is held responsible for water quality of natural streams within the jurisdiction as designated by state and federal agencies.

What is a Stormwater Management Plan (SWMP)?

A Stormwater Management Plan is the documented plan developed by the regulated agency (Lancaster County) to meet the requirements of the NPDES SMS4 program. The SWMP outlines the specific measures and implementation schedule the jurisdiction will use to comply with the MS4 program. Each regulated MS4 community has a separate and distinct SWMP tailored for the specific community.

What are Best Management Practices (BMPs)?

Best Management Practices are various techniques used to meet goals in the stormwater management plan (SWMP). BMPs may be physical barriers like silt fences, detention ponds, or vegetative buffers to minimize silt and sediment loss from a construction site. BMPs may also be distribution of educational flyers to meet public education requirements. Lancaster County will have to implement a BMP of staff training to improve our environmental stewardship which is part of compliance with the Good Housekeeping goal.

When does the program begin?

It has already begun. Lancaster County has been in negotiations with DHEC since **2013** concerning the SMS4 designation, geographic boundaries, and SWMP implementation schedule. Lancaster County has already met many of the permit requirements by utilizing professional consultants since **2014** to prepare numerous background documents necessary for permit compliance. The passing of Unified Development Ordinance (UDO) in **2016** which includes many provisions necessary for permit compliance. The employment of a County Engineer in **2017** to begin daily implementation and maintenance of the program. Additional staff and resources will be required as the program responsibilities increase to comply with the DHEC implementation schedule.

Is Lancaster County responsible for pollutants generated in North Carolina?

No, we are not responsible for cleaning pollutants generated in another state. However, we may be required to take background samples at the state line and downstream to ensure that we are not adding to the pollutant levels entering our panhandle SMS4 jurisdiction.

Do other cities/counties have a stormwater fee?

Yes, 38 other cities and/or counties in South Carolina and 71 in North Carolina have a stormwater Utility. There are more than 1,600 nationwide. Regionally the following communities have stormwater fees: Fort Mill, Rock Hill, Tega Cay, Monroe, Matthews, Indian Trail, and Mecklenburg County.

What is the basis for the stormwater fee charged?

The stormwater utility fee is based on the amount of impervious surface on your property. Impervious surface area is any surface that does not readily absorb water and impedes the natural infiltration of water in to the soil. The majority of Stormwater Utilities use impervious areas as an equitable way to set fees. Customers pay a fee related to the amount of runoff generated from their property. Impervious surfaces generate runoff at a much higher rate than undisturbed land.

Are tax exempt properties exempt from the stormwater fee?

No, because it is a fee not a tax. Taxes are based on property value, the stormwater fee is assessed based on impervious surface. The runoff generated from impervious surfaces contributes significantly to pollution and flooding problems.

How will fees be determined?

Residential properties will be billed based on a Residential Equivalent Unit (ERU). A ERU is set as 3,500 square feet of impervious area. It was determined by taking a representative sample of residential properties in Lancaster County and measuring the impervious surfaces based on aerial photography. The commercial property fees are based on individual measurement and analyses of approximately 430 properties in the MS4 area. The impervious area for each was divided by 3,500sq. ft. to determine the number of equivalent ERUs the property contained. The ERU is presently set a $75 annually to cover minimum effort required to comply with new regulations in the panhandle of Lancaster County. The number of ERUs was multiplied by $75 to determine an annual fee. The fee will be included along with annual tax billing invoices.

I pay Home Owners Association (HOA) dues which include storm ponds, why do I have to pay the new fee?

The HOA dues include many other things in addition to storm detention/retention pond maintenance. Sediment ponds built for construction runoff conditions generally do not improve water quality in post-construction conditions. Some poorly designed, constructed, or maintained ponds do not have much runoff peak attenuation capabilities either. One BMP which may be utilized by the utility, would be to retrofit existing HOA detention or retention ponds to maximize potential water quality and/or quantity benefits.

Why do I have to pay when I do not have any drainage problems?

Everyone in the panhandle SMS4 service area will benefit from a stormwater management program. When storm water runs off your property downhill, it impacts your neighbors. The County must have a program to maximize runoff water quality and minimize flooding. We all use roads that may have inadequate storm sewers beneath them. When the road culvert was designed and constructed years ago the contributing land use was much less urbanized. These land use changes overwhelm the old culverts which can create hazards that need to be corrected.

Where does our drinking water come from?

Lancaster County Water and Sewer District uses water from the Catawba River which is cleaned and treated then pumped into the pressurized system which serves the Lancaster County area. As the surface waters and groundwater supplies become more polluted, treatment to drinking water standards becomes more and more difficult and expensive. Groundwater supplies from private wells are subject to pollution impacts and most private wells do not receive any treatment prior to consumption.

What is the 303d list?

The 303d list refers to waterbodies for which obtained samples have failed minimum water quality criteria set out in section 303(d) of The Clean Water Act. The water bodies on the 303d list can only be removed if water quality improves. The 303d listed waters typically become Total Maximum Daily Load (TMDL) water bodies which require the local MS4 implement corrective measures to limit the pollutant(s) of concern in the TMDL.

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What is sediment?

- Sediment is the fraction of soil that travels downstream and makes our streams reddish brown after a rain. It is typically the smaller particles that wash away which is also the reason they stay in suspension in the streams. Sediment is the number one pollutant by volume. Sediment fills up ponds/lakes and chokes out larva/eggs of aquatic organisms living in streams.
- More importantly, sediment is the vehicle most pollutants ride on. When a pollutant(s) is spilled on the ground. It can be chemically bound to the soil particles. When those particles are eroded and sediment is washed downstream, it takes the pollutants with it.
    - Many chemicals have a long half-life meaning they can pollute streams/lakes for years after the pollutant source is gone.
    - Mercury in fish is an excellent example. We use very little mercury and it is now highly regulated, but it still concentrates in fish tissue today due to sediment deposits in the bottom of lakes which leach out trace amounts of mercury continuously.

How can I help protect our local water bodies?

- Don't dump anything down storm drains; oils, chemicals, paints, soaps, etc. pollute our streams and lakes.
- Use pesticides and fertilizers sparingly and always follow label instructions.
- Do not blow grass clippings into storm drains or throw into a nearby ditch.
- Put litter in its place, (trash or recycling containers)
    - If you throw it out of the car window, it generally ends up in the stream.
- Pick up after your pet.
- Keep livestock out of creeks
- Fix vehicle leaks & recycle used fluids.
- Have septic tanks checked or serviced a minimum of every two years.
- Keep groundcover (plants or mulch) on bare soil.
- Sweep up dry spills, don't wash them away.
- Use professional car wash facilities or wash your car in grassy areas.

Where Can I get more information concerning the Lancaster County program and general program requirements?

www.scdhec.gov/Apps/Environment/PublicNotices/.../PDF/3318
http://www.scdhec.gov/HomeAndEnvironment/Water/Stormwater/
http://www.scdhec.gov/Environment/docs/Final_SSMS4_Permit.pdf
https://www.scdhec.gov/Agency/docs/water-regs/r61-9.pdf
https://www.epa.gov/npdes/npdes-stormwater-program
https://www.scdhec.gov/HomeAndEnvironment/Docs/tmdl_waxhaw_fc.pdf
http://dnr.sc.gov/swap/supplemental/mussels/carolinaheelsplitter2015.pdf

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Outline of typical tasks and activities associated with the Panhandle Stormwater Utility

There are many aspects to community compliance with the National Pollutant Discharge Elimination System (NPDES) Small Municipal Separate Storm Sewer System (SMS4) program, which can broadly be grouped into six general categories as follows:

1. *Public Education and outreach*
2. *Public participation and involvement*
3. *Illicit Discharge Detection and elimination*
4. *Construction Site runoff control*
5. *Post-Construction site runoff control*
6. *Pollution Prevention/ Good Housekeeping (Municipal Operations)*

Each of these six program goals require specific steps and objectives to meet compliance with South Carolina Department of Health and Environmental Control and federal Environmental Protection Agency requirements. The tasks listed below will be implemented over several years and modified as necessary to meet specific panhandle land use and constituent needs. These measures, tasks, and activities are generally defined as Best Management Practices (BMPs) by the regulatory community.

Goal 1. Public Education and outreach:

- Current pollutants of concern within the SMS4 service area
    - SCDHEC 303d list: CU, ECOLI, BIO
    - EPA Total Maximum Daily Load (TMDL): Fecal Coliform
    - State, & federal endangered species, Carolina Heelsplitter: Sediment
- Identify target audience to minimize pollutants of concern
- Develop a public outreach plan to minimize pollutants
    - Engage stakeholders in planning public outreach campaign
    - Create educational materials for the target audience
    - Distribute environmental materials to aid understanding of program goals
        - Provide guidance to property owners implementing water quality measures
        - Meet with HOAs and community groups
        - Provide materials for web page updates and expansions
- Assess and adjust public outreach program to fit needs of constituents, land use, and regulations

Goal 2. Public Participation and Involvement:

- Identify, support, participate and/or sponsor community events with booth emphasis on water quality
- Provide public access to SWMP information
- Solicit on-going public input on program objectives, requirements, and implementation

Goal 3. Illicit discharge detection and elimination:

- Train Lancaster County field staff concerning illicit discharge detection and elimination
- Develop SMS4 system inventory maps/database with outfalls, public infrastructure condition, receiving waters, etc.
- Identify priority areas with potential illicit discharges
- Identify potential field screening locations
    - Conduct dry weather field screening for illicit discharges
- Develop illicit discharge tracking procedures
    - Conduct tracking when a pollutant is discernable in receiving waters
    - Eliminate illicit discharges and document investigations and elimination
- Internal pipe cleaning and TV inspections by remote equipment to assess infrastructure condition and/or illicit discharge locations
- Adjust illicit discharge program to specific practices/parameters of concern

Goal 4. Construction site runoff control:

- Develop and adopt a stormwater ordinance
- Implement plan review of proposed development projects
- Training for construction site observation staff
    - Construction site observation, inventory, and record keeping
- Develop enforcement response plans for non-compliant properties
- Establish and implement construction operator training requirements

Goal 5. Post-construction site runoff control:

- Develop a stormwater quality ordinance
    - Evaluate and update ordinances as necessary
- Develop site performance standards to minimize first flush impacts from developed land uses
- Site plan review to ensure water quality standards are considered
- Develop Post-Construction BMP inventory
- Post-construction BMP observations per water quantity and quality benefits
- Develop a long term maintenance plan for site BMPs (ponds, buffer strips, level spreaders, etc.)
- Take and analyze background and impacted water samples to focus restoration efforts

Goal 6. Pollution prevention/ good housekeeping:

- Assess all municipal operations facilities concerning potential pollutant discharges
- Train Lancaster County field staff including: sheriff, fire, inspections, code enforcement, maintenance, and vehicle shop in one or more of the following areas:
    - Illicit Discharge detection and elimination
    - Pollution Prevention/Good Housekeeping
    - Construction and post construction erosion control and water quality BMPs

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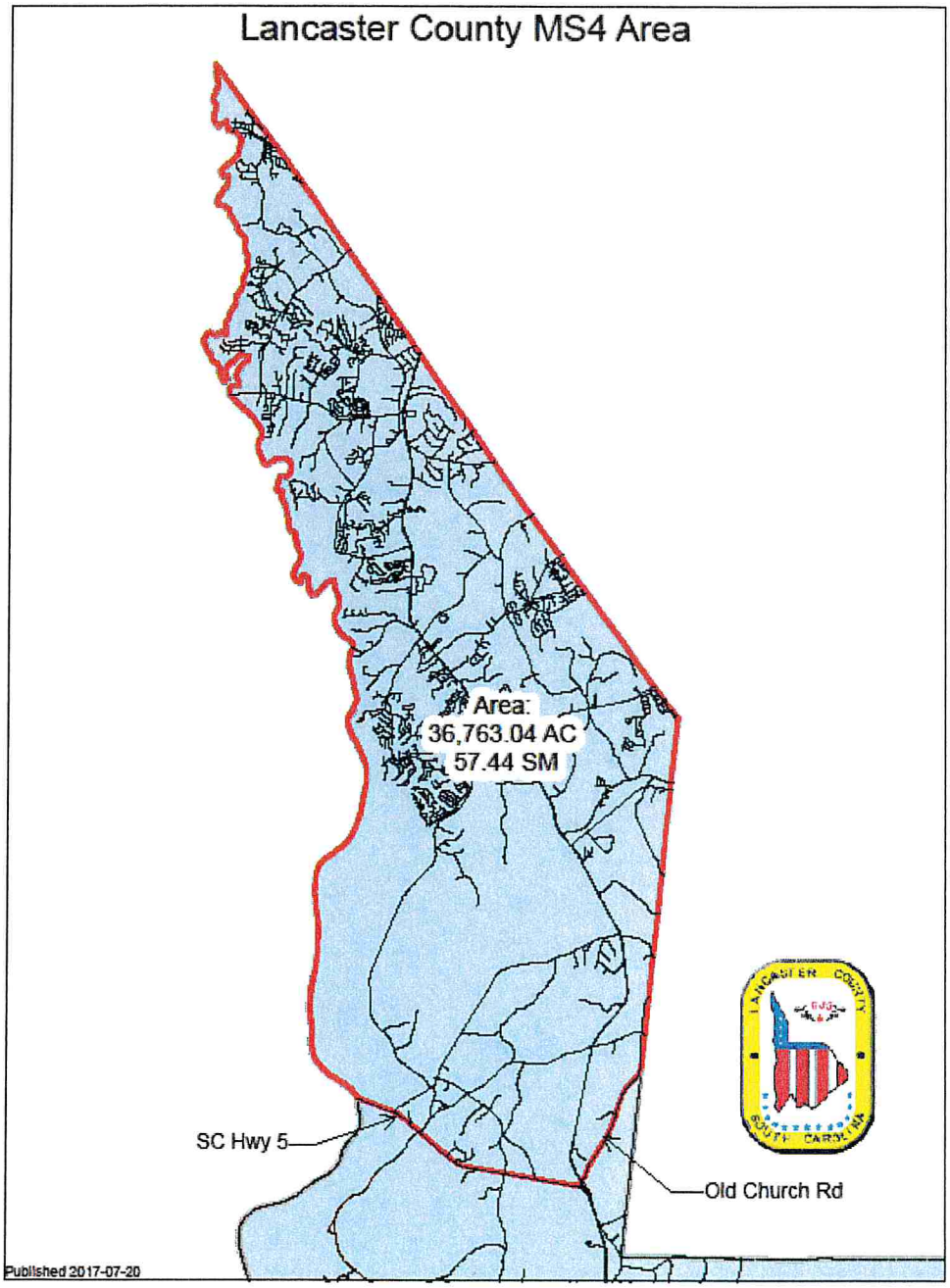
Other responsibilities which may be required of the Stormwater Utility:

1. Act as a resource in Civil Engineering and environmental concerns
    a. Develop and publish "fact sheets" on various environmental and water resource issues
    b. Provide customer service response to citizen requests
    c. Assistance to landowners for retrofit of water quality measures
    d. Provide permitting and engineering assistance to Lancaster County departments
2. Establish and maintain an accurate Stormwater Utility billing database
3. Review all new site development plans in Panhandle for engineering and environmental concerns
4. Develop policies/practices for consideration by Lancaster County Council
5. Develop maintenance activities and inspection schedule for publicly owned BMPs
    a. Pipes, headwalls, junction boxes, curb inlets, ponds, swales, green infrastructure, etc.
6. Establish a priority ranking system: repair/replace/ delay for inadequate storm drainage infrastructure
7. Evaluate/ design/ and observe storm sewer infrastructure Capital Improvement Projects, (CIP)
8. Design/administer stream bank stabilization/restoration projects
9. Design and observe construction of "silt saver" walls or other mechanisms to reduce storm system failures and minimize on-going maintenance requirements
10. R0un HEC-RAS software on streams to evaluate cumulative impacts of development to floodplain / floodways.
    a. Evaluate ultimate buildout in HEC-RAS model for watersheds in MS4 area to minimize flooding and assist in future land planning/zoning efforts
11. Evaluate methods of screening and/or removing "gross solids" (litter and rubbish) from panhandle waters
12. Act as program managers for Capital Improvement Projects for storm system improvement projects

Additional information concerning the Lancaster County SMS4 program:

www.scdhec.gov/Apps/Environment/PublicNotices/.../PDF/3318
http://www.scdhec.gov/HomeAndEnvironment/Water/Stormwater/
http://www.scdhec.gov/Environment/docs/Final_SSMS4_Permit.pdf
https://www.scdhec.gov/Agency/docs/water-regs/r61-9.pdf
https://www.epa.gov/npdes/npdes-stormwater-program
https://www.scdhec.gov/HomeAndEnvironment/Docs/tmdl_waxhaw_fc.pdf
http://dnr.sc.gov/swap/supplemental/mussels/carolinaheelsplitter2015.pdf
https://www.fws.gov/endangered/map/state/SC.html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