



2016 Stormwater Utility Reporting Form

Due to DEQ by October 1, 2016

Name of Locality: City of Roanoke Phone: 540.853.5900
Person Completing Survey: Dwayne D'Ardenne Date: 9/30/2016
Email: Dwayne.DArdenne@RoanokeVA.gov

The purpose of this form is to implement the following stormwater utility reporting requirement established by Paragraph H.1. of Item 363 of the FY15-16 State Budget: "Each locality establishing a utility or enacting a system of service charges to support a local stormwater management program pursuant to § 15.2-2114, Code of Virginia, shall provide to the Department of Environmental Quality by October 1 of each year, in a format specified by the Department, a report as to each program funded by these fees and the expected nutrient and sediment reductions for each of these programs."

Each Locality subject to the reporting requirement set forth above shall complete and submit this form to the DEQ by each October 1, to: Shawn Smith.

SECTION 1 – LOCALITY INFORMATION

Locality Name: City of Roanoke, VA
Contact Name: Dwayne D'Ardenne
Contact Address: 1802 Courtland Rd NE
Contact Email: Dwayne.DArdenne@RoanokeVA.gov
Contact Phone: 540.853.5900

SECTION 2 - STORMWATER UTILITY FEES

For your stormwater utility fees provide the following information from your most recent annual financial statement.

Fund Name: 03-Stormwater Utility Fund Fiscal year: FY2015-2016

Utility Fee Revenue (100% allocated to: 03-Stormwater Utility Proprietary Fund)	03- Stormwater Utility Fund Expenditures	Balance
\$3,875,848*	\$5,093,063.69**	\$1,853,901.73***

- All figures in red above are preliminary as the FY2015-2016 annual financial statement has not yet been completed.
- *As required by State Code and City ordinance, all revenue from the stormwater utility fee is credited to the Stormwater Utility Proprietary Fund. Other amounts credited to the fund include transfers from the City's general fund, bond proceeds, and revenue from VDOT revenue sharing program and DEQ SLAF (Stormwater Local Assistance Fund) program.
- **Expenditures from the fund totaled \$5,093,063.69. The expenditures included operations (including maintenance and water quality expenditures) totaling \$3,595,273.23 and multi-year capital project expenditures totaling \$1,497,790.46. Historically, expenditures from the fund have exceeded the revenue from the stormwater utility fee. Expenditures beyond the utility fee revenue were made possible via transfers from the general fund, bond funds, and VDOT revenue sharing funds.
- ***The balance is split between operations (\$68,518.31) and multi-year capital projects (\$1,785,383.42; including bond funds and VDOT revenue sharing funds).

SECTION 3 – FUNDED PROGRAMS AND OTHER MAJOR ACTIVITIES

Provide a brief description of each major program funded by the utility fee system and, where applicable, the expected nutrient and sediment reductions for each of these programs.

A. Water Quality Improvement Program

Clean Water Act 303(d) Program/Watershed Master Plans

During FY2015-2016, the City of Roanoke continued our collaborative and multi-year Urban Stormwater Research project with the Virginia Tech Department of Civil & Environmental Engineering. The desired outcome from this research is a master plan toward the eventual restoration and “delisting” of all impaired stream segments within City limits that are currently identified as part of the Clean Water Act 303(d) program. As a point of fact, segments of the Roanoke River and 11 of its tributaries having watersheds within City Limits are currently on the 303(d) list for various impairments including: Benthic (Sediment), Bacteria, PCBs, Water Temperature, and/or Mercury in Fish Tissue. The FY2015-2016 Urban Stormwater Research focused upon completion of the Lick Run Watershed Master Plan (WMP) as well as starting the Carvin, Glade, and Tinker Creek WMPs. These WMPs provide the necessary information and analysis for long-term implementation planning as well as assisting with prioritization of stormwater improvement projects toward restoration and protection of local surface water quality. These WMPs are based on field collected and verified data including physical and biological make-up of the main drainage channel of the watershed; the configuration of the stormwater pipe system that drains to this channel; and the characteristics of the watershed’s land surface that dictate hydrology and water quality. These WMPs identify Goals, Objectives, and Action Items toward the “delisting” desired outcome. The City’s overall water quality improvement Goals are as follows:

- Maximize watershed resiliency and sustainability which will reduce flooding, in-stream erosion, sediment loads, and bacteria loads while increasing base flow in dry channels, biological life, recreation, and aesthetics.
- Minimize watershed hazards to public health, safety, and property which will reduce flooding, flood insurance costs, flood repair costs, in-stream erosion, sediment loads, and bacteria loads while increasing base flow in dry channels, biological life, recreation, and aesthetics.
- Connect citizens, businesses, students, and other stakeholders to their watershed which will reduce illicit discharges while increasing property values, treatment from private BMPs, community education, watershed knowledge base, recreation, and aesthetics.

Clean Water Act 303(d) Program/TMDL Action Plans for Sediment, Bacteria, and PCBs

On October 1, 2015, the City submitted its Sediment and Bacteria TMDL Action Plan in conjunction with the FY2014-2015 annual MS4 permit report. On October 1, 2016, the City will submit its PCB TMDL Action Plan in conjunction with the FY2015-2016 annual MS4 permit report. These Action Plans outline practices, techniques, and designs to achieve Waste Load Allocations (WLAs) set forth by the DEQ for the impaired segments of the Roanoke River and its 13 tributaries having watersheds within the City limits. The TMDL Action Plans are working documents that follow the aforementioned Watershed Master Plan Goals, Objectives, and Action Items. During FY2015-2016, the following Sediment and Bacteria TMDL Action Plan items were completed:

- Stormdrain Maintenance: Removed 51.6 dry tons of floatables, sediment, and other pollutants from the 9,585 existing stormdrain inlets and 402 linear miles of City stormdrain pipe before they reached one of the 418 stormdrain outfalls that flow directly into the Roanoke River or one of its 13 tributaries having watersheds within City limits.
- Stormdrain System Asset Inventory: During 2015-2016, the Carvin Creek, Glade Creek, and Tinker Creek watershed’s asset inventory was completed. The stormdrain GIS data layer for these watersheds was verified and updated to include: manholes, pipe orientation, termination points, and outfalls.

- Stormdrain System CCTV Inspection: Purchased one replacement and one additional CCTV truck to verify, map, and inspect stormdrain assets as well as investigate illicit discharges. CCTV crews inspected 73,099 linear feet of Stormdrain pipe representing a 4X increase over FY2014-2015 CCTV inspections.
- Illicit Discharge Detection and Elimination (Outfall Reconnaissance): 61 outfalls inspected in the Peters Creek, Barnhardt Creek, and Murdock Creek watersheds. Three of the 61 outfalls were suspect with dry weather flow, but further investigation deemed all three to be innocuous.
- Illicit Discharge Detection and Elimination (Investigation of Reported Incidents): 18 of 19 illicit discharge reports were opened, investigated, resolved, and closed. One investigation was identified during outfall reconnaissance on Barnhardt Creek. During subsequent trips to the site for dye testing and/or sampling, the City was neither able locate the same recurring discharge nor find the residents at home. While the investigation currently remains open, it will be resolved during FY2016-2017.
- Water Quality Monitoring Agreement: Collaboration with USGS to install a monitoring station and characterize both streamflow and sediment transport in Lick Run. Monitoring objectives include: continual stream levels, water temperature, pH, conductivity, dissolved oxygen and turbidity. As part of the agreement, USGS will use the collected data to determine annual loads of suspended sediment.
- City's first Stream Restoration Project: Application for and award of \$150K VADEQ Stormwater Local Assistance Funds which will be leveraged with Stormwater Utility Funds during FY2016-2017 to restore apx. 700 linear feet of Lick Run in lower Washington Park.
- Streetsweeping: 1299.18 tons of sediment & debris was removed from a total of 14,241 City lane miles swept which represents an additional 811 lane miles and 35.01 tons over FY2014-2015.
- Animal Carcass Collection: 1326 carcasses were collected from City rights-of-way which represents an increase of 240 over FY2014-2015 (Animal Carcass Collection reduces bacterial contamination of surface waters via stormwater runoff from the City's stormdrain system.)
- Additional Tree Canopy in the River & Creek Overlay District: Coordination and procurement of contract planting 64 new trees along the Roanoke River.
- Coordination and procurement of 46 additional Mutt Mitt Stations: 7 in the Central Business District were installed and 39 were purchased for City Parks & Recreation to install along Lick Run, Tinker Creek, and Roanoke River Greenways during FY2016-2017.
- Development and distribution of two sediment-specific brochures:
 - Residential brochure, "Understanding Stormwater Pollution," highlights homeowner level best management practices and is distributed during public outreach events and stormwater presentations.
 - Contractor brochure, "Stormwater Pollution Prevention Requirements," is distributed by the City's "Permit Center" as part of the building permit or street opening permit process. Building Inspectors also distribute to contractors in the field, particularly when compliance problems are identified.
- Development and distribution of a bacteria-specific brochure: The "Here's the Scoop...Do Your Doody & Clean Up After Your Pet" brochure was mailed to 61K property owners within City limits and to all registered pet owners living in the Central Business District. This brochure also continues to be distributed by veterinary offices, animal shelters, and pet stores within City limits.

B. Stormwater Capital Improvement Program/Minimize watershed hazards

The largest objective under the "Minimize watershed hazard to public health, safety, and property" Watershed Master Plan goal is to "Prioritize and construct Capital Improvement Projects that both mitigate neighborhood flood hazards and improve downstream water quality" The City currently has a backlog of more than 254 such stormwater capital improvement program (CIP) projects. Preliminary

design and cost estimates for these projects total more than \$86.7 million. In FY2015-2016, six stormwater improvement projects were completed:

- Roanoke Centre for Industry and Technology Stormwater Improvement Project
- Orange/King Stormwater Improvement Project
- Wyoming/Westside Stormwater Improvement Project
- Woodbridge Road Stormwater Improvement Project
- 8th St/Elm Av Stormwater Improvement Project
- BRITE #5 (I-581 Williamson Rd Interchange) Bioretention Basin Project

During FY2016-2017, the following 13 stormwater improvement projects are already under construction or are funded and scheduled to be completed:

- Laurel Ridge/Lewiston Stormwater Improvement Project
- Fresno/Aspen Stormwater Improvement Project
- Westover/Edgewood Stormwater Improvement Project
- Cove/Andrews Stormwater Improvement Project
- Trevino/Monterey Phase I Stormwater Improvement Project
- Queen/Courtland Stormwater Improvement Project
- Inglewood/Hartland Stormwater Improvement Project
- Washington Park/Lick Run Stream Restoration Project #1
- McVitty/Gatewood Stormwater Improvement Project
- Blenheim Rd Stormwater Improvement Project
- 3700 Blk Salem Tpk Stormwater Improvement Project
- 1800-2000 Blk Shenandoah Ave Stormwater Improvement Project
- 3500 Blk Peters Creek Rd Stormwater Improvement Project

Currently, the following 5 stormwater improvement projects are designed, approved, and are (or near) shovel-ready for construction pending adequate funding:

- Oliver/Troy Stormwater Improvement Project
- 4500 block Narrows Ln Stormwater Improvement Project
- 1400-1500 24th St Stormwater Improvement Project
- Cove Rd – Dansbury Dr (1 Remaining ROW Acquisition)
- 1300-1400 Graybill Rd (In ROW Acquisition Process)

Finally, 14 other stormwater improvement projects are under active design:

- Trevino/Monterey Phase II - Floodplain Reconnection Project
- 3500 Block Windsor Rd (2nd Plan Review)
- Victoria St- Caldwell St (95% Designed)
- 22nd St – Cove Rd (90% Designed)
- Sunrise/Oakland Blvd (90% Designed)
- Troxell/Mabry Av (90% Designed)
- Sample/Crown Point Rd (85% Designed)
- Hollins/Liberty Rd (70% Designed)
- 1400-1600 Blk Templeton Av (70% Designed)
- Sherwood/Chesterfield St (65% Designed)
- 2400 Blk Florida Av (50% Designed)
- 19th St/Chapman Av (60% Designed)
- Lakecrest/Greenlee Rd (50% Designed)
- 3400-3500 Blk Brymoor Rd (20% Designed)

C. Public Education and Outreach/Connect Stakeholders to their Watershed

The three Watershed Master Plan objectives under “Connect citizens, businesses, students, and other stakeholders to their watershed” are as follows:

- Provide the community with life-long learning opportunities about their watershed
- Engage the community in revitalizing watershed ecosystem health
- Coach the community to participate in outdoor recreation and stewardship opportunities within their watershed

To that end during FY2014-2015, the City updated its regional Education and Outreach Plan in collaboration with adjoining locality neighbors, Roanoke County and the Town of Vinton. During FY 2015-2016, the City’s stormwater staff created and executed a wide array of education and outreach materials and events including:

- Education/outreach via a completely overhauled Roanoke Stormwater website
- Education/outreach via social media to Roanoke Stormwater’s 1508 Facebook friends, 605 Twitter followers, and 192 Pinterest followers.
- Education/outreach via 8 community events including:
 - CVC’s Recycle Regatta – Outreach booth where Stormwater staff actively talked with citizens using the greenway and gave away pet waste bag dispensers to citizens with dogs. Stormwater Division also made a boat out of recycled “rainbarrels” and competed in the Recycled Regatta. The boat sail had a “Scoop the Poop” message
 - Roanoke Valley SPCA Tail Chaser – Outreach booth where Stormwater staff provided an estimated 250 race participants with a pet waste bag holder for their dog’s leash so owners are “never” without a bag.
- Education/Outreach via Train-the-Trainer Rainbarrel workshop: 34 participants were trained to make their own Rainbarrel and each committed to organizing at least one Rainbarrel workshop of 20 people each which totals 680 to 1360 new Rainbarrels in the Roanoke Valley over the coming year.
- Stormwater “Creating a Clean Water Legacy” presentations to 3 neighborhood groups and 4 other community/non-profit organizations.

Finally, in addition to the above in-house Public Education and Outreach efforts, the City, in collaboration with Roanoke County and the Town of Vinton contracted with local non-profit, Clean Valley Council (CVC), to provide regional stormwater-related events and programming to Roanoke Valley citizens. Through its stream and in-school education programs, the CVC also provides environmental literacy to students throughout the Roanoke Valley. During FY2015-2016, CVC education and public events reached over 10% of the City’s population.