COUNTY OF ROANOKE

VIRGINIA

Water Quality-Related STANDARD OPERATING PROCEDURES

June 2014

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Introduction

The Virginia Department of Environmental Quality reissued a **M**unicipal **S**eparate **S**torm **S**ewer **S**ystem (MS4) Permit to the County, which became effective on July 1, 2013. This permit regulates discharges to the County's storm sewer (i.e., storm drainage) system. As part of the MS4 Permit requirements, the County is required to develop and follow written procedures for day-to-day activities that have the potential of discharging pollutants to storm drains and, ultimately, to streams.

To that end, the following Standard Operating Procedures (SOPs) have been developed. These SOPs are intended to serve as a guide for employees in their day-to-day activities across the various County departments; the goal of these SOPS is to avoid pollution to the County storm drainage (i.e., MS4) system, and thereby protect water quality in the Roanoke River and its receiving streams.

The SOPs were intentionally written to be generic in nature in order to have broad application over the myriad activities that are conducted on a daily basis within the County's very diverse departments. Where specific SOPs were needed for a specific department's unique activities, such SOPs have been provided in the Appendix. Should any of the department-specific SOPs conflict with the general SOPs, the more restrictive shall apply.

How to Use this Document

Each department shall be responsible for assuring that its employees are propely trained to follow the SOPs in this manual, if applicable, to ensure that the day-to-day activities in each department do not adversely affect the storm drainage (i.e., MS4) system.

Roanoke County Must Maintain This Document

Standard Operating Procedures may change with time, and additional SOPs may need to be developed. Any employee who believes that a SOP should be revised or that an additional SOP is needed should notify their supervisor. The supervisor should contact the County's Stormwater Management Program Manager in the Department of Community Development.

Who Has To Use This Manual?

All County Departments and their employees must follow these SOPs when engaging in any of the listed activities.

SOP 1.0 - Chemical Application of Pesticides, Herbicides, and Fertilizers

1. Preparation

a) Ensure appropriate personnel have current state certifications for chemical handling before handling any pesticides, herbicides, or fertilizers (products).
b) Calibrate product application equipment to avoid over-application.
c) Use products only if there is an actual pest problem.
d) Periodically test soils for determining need to fertilize and appropriate amounts, or comply with the Nutrient Management Plan.
e) Apply all products at a rate and in the season specified by the manufacturer (i.e., "Read the Label"), and apply in accordance with the Nutrient Management Plan, if applicable.
f) Know the weather conditions. Do not use products when rain is expected. Apply products only when wind speeds are low (i.e., less than 5 mph).

2. Process

a) Always follow the manufacturer's recommendations for mixing, application, and disposal (i.e., "Read the Label").
b) Do not mix or prepare products for application near storm drains or streams; preferably, mix inside a protected area with impervious secondary containment, preferably inside a building, so that spills or leaks will not contact soils. If products must be mixed in the field, use precautions to prevent spills or leaks from contacting soils.
c) Employ techniques to minimize off-target application (i.e., spray drift, over-broadcasting) of products.
d) Do not apply to waterways.

3. Cleanup

a) Sweep any applied fertilizers from pavements and sidewalks onto grassy areas before applying irrigation water.
b) Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
c) Always follow all federal and state regulations governing use, storage, and disposal of products and their containers (i.e., "Read the Label").

4. Documentation

a) Keep copies of MSD sheets for all products used.
b) Record fertilizing and pesticide application activities, including date, individual who did the application, amount of product used, location, and approximate area covered.

SOP 2.0 - Chemical Storage/Handling/Transporting and Spill Response

1. Preparation

a) Understand MSDS sheets for storage and handling of all chemicals.
b) Determine proper place for chemical storage and handling.
c) Minimize the amount of chemical stored onsite.
d) Store undercover, out of the reach of rainfall or stormwater runoff.
e) Have necessary containment and spill kits at handling place.

2. Process

a) Begin transfer process.
b) Discontinue operations if spills occur.
c) Disconnect and store handling equipment.

3. Cleanup

a) Contain and clean up spills with proper containment devices and absorbent material.
b) Dispose of contaminated material at an appropriate facility.

4. Documentation

a) Report spills that escape the site to:

Roanoke County Emergency Communications Center
(540) 562-3265

b) Provide the following information, if known:

- **Where:** The location of the incident.
- **When**: When the event occurred.
- **What:** Specify what was released and how much.
- **Who:** Specify the source of the problem and/or the company/individual involved with the problem.

SOP 3.0 - Curb Painting

1. Preparation

a) Calculate the amount of paint required for the job.
b) Use water based paints, if applicable.
c) Determine locations of storm drain inlets and sewer inlets that may need to be protected.
d) Prepare surfaces to be painted without generating wastewater by sandblasting and/or scraping. Thoroughly sweep up all sand, blasting, and/or paint scrapings.
e) If surfaces are prepared using power washer, then use only water (no chemicals) and direct all wash water to a grassed area and allow it to soak into the ground.
f) If paint stripping is needed, use a citrus-based paint remover whenever possible, as it is less toxic than chemical strippers. Collect all waste and properly dispose of it.

2. Process

a) Paint curb.
b) Prevent over-spraying of paints and/or excessive sandblasting
c) Use drip pans and drop clothes in areas of mixing paints and painting
d) Store latex paint rollers and brushes in air tight bags to be reused later with the same color.
e) Have available absorbent material and other BMP's ready for an accidental paint spill.

3. Cleanup

a) Paint out brushes and rollers as much as possible. Squeeze excess paint from brushes and rollers back into the containers prior to cleaning them.
b) Pour excess paint from trays and buckets back into the paint can containers and wipe with cloth or paper towels. Dispose of the towels according to the recommendations on the paint being used.
c) Rinse water-based paint brushes in a sink that is connected to a sanitary sewer after pre-cleaning. Never pour excess paint or wastewater from cleanup of paint in the storm drain or onto the ground.
d) Clean up oil based paints with paint thinner. Never clean oil based brushes in a sink or over a storm drain. Filter solvents for reuse if possible and/or store in approved drum for recycling.
e) Dispose of waste collected by placing it in a garbage container. Left-over paint and solvents should be stored for later use (do not place these liquids in the garbage).

4. Documentation

a) Write-up/report of any discharges into storm drain system.

SOP 4.0 - Detention Pond Cleaning

1. Preparation

a) Schedule the work for a time when dry weather is expected.
b) Do a visual inspection to make sure any grates, structures, manholes, boxes, and pipes are in good working order. Remove manhole covers and grates, as necessary, for inspecting.

2. Process

a) Provide outlet protection, where feasible, to minimize the amount of debris that might leave the pond during the cleaning process.
b) Employ other erosion and sediment controls, as necessary.
c) Remove any sediment and trash from grates, placing it in a truck for disposal.
d) Remove debris and sediment from the pond bottom using a backhoe or other equipment, as necessary.
e) Put all material removed from the pond into a dump truck and haul to an approved disposal site.
f) Some drainage structures may require use of a Vacuum truck. If so, employ an outside contractor to conduct such cleaning.
g) Re-grade or reshape pond bottom and slopes, if needed, after maintenance work is complete, and re-stabilize with grass.

3. Cleanup

a) After cleaning the pond, clean off any associated concrete pads using dry methods, such as sweeping and shoveling.
b) Take all collected materials to an approved landfill or other disposal site.

4. Documentation

a) Keep a log of each pond cleaned including date, location, individuals involved in cleaning, and a description of the type of material/debris removed.
b) Record the amount of collected material.
c) Keep any notes or comments of any problems.
d) Take before and after photographs.

SOP 5.0 - Ditch Maintenance

1. Preparation

a) Monitor ditches on a regular basis, or respond to complaint.
b) Contact affected property owners and utility owners prior to conducting work.
c) Identify areas requiring maintenance.
d) Determine what manpower or equipment will be required.
e) Identify access and easements to area requiring maintenance.
f) Determine method of maintenance that will be least damaging to the ditch channel and adjacent properties or utilities.

2. Process

a) Maintain access to ditch channels wherever possible.
b) Install erosion and sediment controls, as necessary, prior to initiation of work.
c) Conduct all maintenance activities.
d) Remove collected material (debris, branches, soil) from the ditch and place it in a truck to be hauled away to an approved disposal site.

3. Cleanup

a) Stabilize all disturbed soils.
b) Remove all tracked sediments from paved surfaces near maintenance site, if applicable.
c) Haul all collected material to an approved dumping site.
d) Remove any temporary erosion controls.

4. Documentation

a) Keep a log of maintenance activities, including date, location and individuals involved.
b) Record the amount of materials removed or imported.
c) Keep any notes or comments of any problems.
d) Use “before” and “after” photographs to document activities as applicable.

SOP 6.0 - Drainage Structure Cleaning

1. Preparation

a) Do visual inspection to see what needs to be cleaned and/or replaced.

2. Process

a) Clean structure by hand or with hand tools, removing accumulated trash, debris, and sediment.
b) In cases where more extensive cleaning is needed, hire an outside contractor to use a high powered vacuum truck to suck out standing water and sediment.

3. Cleanup

a) If a vacuum truck was used, require the contractor to dispose of the collected material at an approved offsite location.
b) Remove any collected materials and dispose of them at an approved onsite facility. Also remove any hand tools from site.

4. Documentation

a) Keep logs of location and number of drainage structures cleaned.
b) Record the amount of waste collected.
c) Keep any notes or comments of any problems.

SOP 7.0 - Dumpsters/Garbage Storage

1. Preparation

a) Locate dumpsters and trash cans in convenient, easily observable areas. Avoid placing dumpsters in areas where stormwater runoff will run through the dumpster area.
b) Where possible, provide recycling bins to encourage recycling and to reduce the amount of trash and garbage that is being thrown away.
c) Install berms, curbing, or vegetated filter strips around container storage areas to control water entering/leaving storage areas.
d) Whenever possible, store garbage containers beneath a covered structure or inside to prevent contact with rainwater.

2. Process

a) Regularly inspect garbage bins for leaks and immediately make any necessary repairs.
b) Provide/use dumpsters and trash cans with lids and without drain holes; ensure lids are kept closed.
c) Locate dumpsters on a flat, hard surface that does not slope or drain directly to the storm drain system.

3. Cleanup

a) Keep surrounding areas near dumpsters and trash cans clean of all trash and garbage.
b) Have garbage bins emptied regularly to keep them from overflowing.
c) Clean bins or dumpsters, as needed, to keep odors from becoming a problem. When these containers are rinsed, ensure wash water does not enter the storm drain system. Wash these containers in a grassed area and allow washwater to infiltrate into the ground.

4. Documentation

a) Document training of employees.

SOP 8.0 - Equipment Cleaning

1. Preparation

a) Transport equipment in need of cleaning to an approved wash station, if available.

2. Process

a) Wipe off dirt, dust, and fluids with a disposable towel.
b) Wash equipment in an approved wash station.
c) Ensure wash waters are disposed of in a sanitary sewer.

3. Cleanup

a) Dispose of towels in proper trash receptacle.
b) Sweep floor and dispose of debris.

4. Documentation

a) Document training of employees.

SOP 9.0 - Grass Mowing and Trimming

1. Preparation

a) Review process with all affected employees.
b) Check the oil and fuel levels of the mowers and other equipment; fill if needed.

2. Process

a) Wear appropriate clothing and eye and hearing protection. Use other safety equipment, as needed.
b) Mow and trim the designated lawn area; ensure mower shoot does not direct clippings to pavement, drainage ways, or drainage inlets..
c) Either bag clippings and dispose of in trash or mulch and mow. Sweep and blow clippings that are on paved areas or adjacent to storm drain inlets to grass areas.

3. Cleanup

a) Clean mowers by scraping and brushing at the shop and wipe off any oils; dispose of dry spoils in the proper trash receptacle.
b) Wash equipment in an approved wash station.

4. Documentation

a) Document training of employees.

SOP 10.0 - Illicit Discharge Detection and Elimination (IDDE): Citizen-Initiated Investigations

1. Preparation

a) Have a system in place to receive citizen reports, either via phone calls, walk-ins, or online, of suspected illicit discharges.

2. Process

a) Use the "Illicit Discharge Incident Tracking Sheet" to collect the appropriate information from the citizen OR receive such information from the online "Illicit Discharge Reporting Form."
b) Forward the incident report to the County's Stormwater Program Manager in the Department of Community Development, or if unavailable, to the County Engineer.
c) The Stormwater Program Manager will promptly investigate reported incidents.
d) If an illicit discharge of unknown source is confirmed, the standard operating procedure for *IDDE - Tracing Illicit Discharges* will be followed.
e) If the source of an illicit discharge is known or identified, the standard operating procedure for *IDDE - Removing Illicit Discharges* will be followed.

3. Cleanup

a) Clean receiving drainage inlet or initiate spill response, as applicable. Follow relevant SOPs.
b) Remove all cleaning materials and products once illicit discharge has been rectified.

4. Documentation

a) File all completed forms (i.e., incident tracking, inlet cleaning, etc.).
b) Document any further action that was taken.
c) Review incidents reported by citizens on an annual basis to look for patterns of illicit discharges and to evaluate the citizen-initiated inspection program.
d) Document training of employees.

SOP 11.0 - IDDE: Illicit Discharge Observation by Employee

1. Preparation

a) Ensure staff has been trained to recognize illicit discharges.
b) Be alert for potential illicit discharges while conducting normal work activities.

2. Process

a) Call the County's Stormwater Program Manager in the Department of Community Development, or if unavailable, the County Engineer, when evidence of an illicit discharge is observed.
b) Assess the general area of the illicit discharge to see if its source is apparent.
c) Whenever possible, take photographs of the suspected illicit discharge.
d) The Stormwater Program Manager will investigate and complete the following:
    i. Use the "Illicit Discharge Incident Tracking Sheet" to document observations.
    ii. Obtain a sample for visual observation and complete an "Outfall Inspection Form," if applicable.
    iii. Follow the standard operating procedure for *IDDE - Illicit Discharge Source Tracking.*

3. Cleanup

a) Clean receiving drainage inlet or initiate spill response, as applicable. Follow relevant SOPs.
b) Remove all cleaning materials and products once illicit discharge has been rectified.

4. Documentation

a) File all completed forms (i.e., incident tracking, inlet cleaning, etc.).
b) Document any further action that was taken.
c) Document training of employees.

SOP 12.0 - IDDE: Outfall Inspections

1. Preparation

a) Select outfalls to be inspected before leaving the office; attempt to select outfalls in the same geographic area to avoid unnecessary trips across the County.
b) Know the past and present weather conditions. Check the recent rainfall amounts for the last 48 hours.
c) Conduct inspections during dry weather periods.
d) Ensure that proper clothing and boots are worn. Use insect repellant, if applicable. Consider and properly address any safety concerns.
e) Gather all necessary equipment including tape measure, clear container, camera, clipboard with necessary forms, and flashlight.
f) Obtain maps showing outfall locations and identifiers.
g) Obtain outfall description and observations from previous inspections, so that the outfall can be accurately identified and observations compared.
h) Take the outfall inspection forms and all necessary equipment to the site; ensure equipment is charged and working before leaving the office.

2. Process

a) Perform an inspection of outfalls identified by the Stormwater Program Manager. Whenever, possible use the same personnel for consistency in observations.
b) Identify each outfall with a consistent and unique identifier. Use maps and previous inspection reports to confirm the outfall identity and location.
c) Upon locating the outfall, fill out the "Inventory Field Sheet," take a picture of the condition of the outfall, and note on the field sheet which picture corresponds to the data.
d) Verify that the actual file name is on the picture rather than the number of the picture out of total pictures left. (i.e., 148/1480 is not the image file name)
e) If dry weather flow is present at the outfall, then document and evaluate the discharge by completing the following steps:
    i. Collect field samples for visual observations in a clean, clear container and in a manner that avoids stirring up sediment that might distort the observation.
    ii. Characterize and record observations on basic sensory and physical indicators (i.e., outfall condition, flow, odor, color, oil sheen) on the "Outfall Inspection Form."
        1. Compare observations to previous inspections.
        2. If the flow does not appear to be an obvious illicit discharge (i.e., flow is clear, odorless, etc.), attempt to identify the source of the flow (groundwater, intermittent stream, etc.).

d) If an illicit discharge (such as raw sewage, petroleum product, paint, etc.) is encountered or suspected, follow the standard operating procedure for *IDDE - Illicit Discharge Source Tracking.*
e) After collecting all the data for the outfall, use spray paint to record the Outfall ID on the outfall itself, evidencing for future inspections that it has been inspected.

3. Cleanup

a) Remove all test materials and equipment once outfall inspection is complete.

4. Documentation

a) File "Outfall Inspection Forms."
b) Update maps when new outfalls are observed and inspected.
c) Enter all of the information from the field sheets into the "GIS Outfall Recon Database" using the versioning and editing procedures provided by Todd Morland, of the Communication/Information Technology department.
d) Save the pictures in a file named with the date of the inspection at the following path: Y:\StormWaterManagement\Programs\StormSewerSystemInventory\Photo Depot
e) Paste the link for the picture that corresponds to each outfall in the Outfall Recon Database, under the column named "PhotoPath"
f) Document training of employees.

SOP 13.0 - IDDE: Removing an Illicit Discharge

1. Preparation

a) Obtain available property ownership information for the source of the illicit discharge.

2. Process

a) Suspend access to any nearby storm drainage inlets if illicit discharge has the potential to enter the MS4.
b) Direct responsible party to initiate repairs/corrections/cleanup. Coordinate with the appropriate enforcement official for escalating penalties in accordance with the County's Illicit Discharge Ordinance.

For Private Property Owner:

- Contact Owner
- Issue Notice of Violation for violations of the Illicit Discharge Ordinance, and
- Determine schedule for removal; advise responsible party of same

For Roanoke County Facility:

- Notify appropriate municipal authority or department head
- Schedule removal, and
- Remove illicit discharge

c) Seek technical assistance from the Roanoke County Health Department or Virginia Department of Environmental Quality, if needed.

3. Cleanup

a) Confirm illicit discharge is removed or eliminated by follow-up inspection.

4. Documentation

a) Maintain records of notice of violation and penalties.
b) Document repairs, corrections, and any other actions required.
c) Document training of employees.

SOP 14.0 - IDDE: Illicit Discharge Source Tracking

1. Preparation

a) Review information collected when illicit discharge was initially identified and document using "Incident Tracking Form" or "Outfall Inspection Form."
b) Obtain storm drain mapping for the area of the reported illicit discharge.
c) Gather all necessary equipment including: tape measure, camera, clear container, clipboard with necessary forms, and flashlight.

2. Process

a) As a first step, inspect the general area and surrounding properties to identify potential sources of the illicit discharge.
b) Next, trace the illicit discharge using visual inspections of upstream points. Use available mapping to identify tributary streams, pipes, catch basins, etc.
c) If the source of the illicit discharge cannot be determined by a survey of the area or observation of the storm drainage system, consider the following additional steps:
    i. Use weirs, sandbags, dams, or optical brightener monitoring traps to collect or pool intermittent discharges during dry weather.
    ii. Smoke test or televise the storm drainage system to trace high priority, difficult-to-detect illicit discharges.
    iii. Dye-test individual discharge points within suspected buildings.
    iiii. Consider collecting bacterial samples of flowing discharges to confirm/refute illicit discharge.
d) If the source is located, follow procedure for *IDDE - Removing Illicit Discharges*.
e) If the source cannot be found, add the location to a future inspection program.

3. Cleanup

a) Clean receiving drainage inlet or initiate spill response, as applicable. Follow relevant SOPs.
b) Remove all cleaning materials and products once illicit discharge has been rectified.

4. Documentation

a) Document tracking results for future reference.
b) Document repairs, corrections, and any other actions required.
c) Document training of employees.

SOP 15.0 - Open Space Management

1. Preparation

a) Provide for regular observation and maintenance of the County's parks, greenways, and other pubic open spaces.
b) Identify public open spaces that are used for stormwater detention, and verify that detention areas are included on the storm drain system mapping, inspection schedules, and maintenance schedules.

2. Process

a) Ensure that any storm drain or drainage system components on the various properties are properly maintained.
b) Avoid placing bark mulch (or other floatable landscaping materials) in stormwater detention areas or other areas where stormwater runoff can carry the mulch into the storm drainage system.
c) Follow all SOPs related to irrigation, mowing, landscaping, and pet waste management.

3. Cleanup

a) Keep all outdoor work areas neat and tidy. Clean by sweeping instead of washing whenever possible. If areas must be washed, ensure that wash water will enter a landscaped area rather than a storm drainage inlet. Use only water for outdoor washing; do not use soap or detergents.
b) Pick up trash on a regular basis.

4. Documentation

a) Document any observed deficiencies for correction or repair.
b) Document training of employees.

SOP 16.0 - Pet Waste

1. Preparation

a) Require pet owners to clean up pet wastes and use leashes in County parks, in accordance with Section 15-10(3) of the County Code. If public "off-leash" areas are designated, make sure they are clearly defined. Avoid designating public off-leash areas near streams and water bodies.
b) Require pet owners to clean up pet waste from any public place or from premises not owned or controlled by the pet owner, in accordance with Section 5-21, "*Animal nuisance*" of the County Code.
c) Whenever practical and cost effective, install dispensers for pet waste bags and provide disposal containers at key locations, such as trail heads, parks, greenways, or where pet waste has been a problem. Provide signs with instructions for proper cleanup and disposal.
d) Inform County employees that interact with pet owners as part of their responsibilities (Police, Fire, Animal Control, etc.) about the need to keep pet waste out of the storm drains.

2. Process

a) Periodically, check parks, greenways, and trails for pet waste.
b) Where warranted, provide pet waste bag dispensers and disposal containers.
c) Provide ordinance enforcement, as needed.

3. Cleanup

a) Dispose of all collected pet waste; provide temporary storage in a covered waste container, and properly dispose of such material. The preferred method of disposal is at a solid waste disposal facility.

4. Documentation

a) Document problem areas for possible increased enforcement and/or public education signs.
b) Document training of employees.

SOP 17.0 - Planting Vegetation (Trees/Shrubs)

1. Preparation

a) Call VIRGINIA 811 at least 2 working days before any digging is performed to have the locations of underground utilities marked.
b) Dial 811 or 1-800-552-7001.
c) Decide where any excess soils will be taken.

2. Process

a) Dig holes; place soil near the hole so it can easily be placed back around the roots. Do not place any excavated soils in or near pavements, gutters, drainage ways, or drainage inlets.
b) Bring each plant near the edge of the hole that was dug for it.
c) Check the depth of the hole, and adjust the depth, if necessary. The depth of the hole for a tree should be as deep as the root ball, so that the top of the root ball is level with the top of the hole.
d) Carefully remove the pot or burlap bag.
e) Place the plant in the hole.
f) Backfill the hole with existing soil, compost, and fertilizer, if desired. Do not use excessive amendments. Compact the soil around the root ball.
g) Water the plant.
h) Stake the plant, if necessary, to stabilize it.

3. Cleanup

a) Dispose of any extra soil by lightly spreading it across an existing grassed area; or move any extra soil onto a truck or trailer. Place the soil on a tarp if there is likelihood that some of the material would be lost through openings in the bed.
b) Sweep dirt from surrounding pavement(s) into the planter area.
c) Transport spoils to a designated fill or disposal area.

4. Documentation

a) Document training of employees.

SOP 18.0 - Planting Vegetation (Seeds)

1. Preparation

a) Call the VIRGINIA 811 at least 2 working days before any digging is performed to have the locations of underground utilities marked.
b) Dial 811 or 1-800-552-7001.
c) Decide on the application rate, method, water source, and ensure adequate materials are on hand.
d) Grade and prepare the soil to receive the seed. Place any extra soil in a convenient location to collect.

2. Process

a) Place the seed and any cover using the pre-determined application method (and rate).
b) Lightly moisten the seed.

3. Cleanup

a) Move any extra soil into a truck or trailer. Place the soil on a tarp if there is likelihood that some of the material would be lost through openings in the bed.
b) Sweep dirt, seed, and any cover material from surrounding pavement(s) into the planter area.
c) Transport soil to a designated fill or disposal area.

4. Documentation

a) Document training of employees.

SOP 19.0 - Snow Removal and De-Icing

1. Preparation

a) Do not purchase or use any de-icing chemical that contains urea or any other nitrogen-containing compounds.
b) Store de-icing material in a covered storage area or in an area where water coming off the de-icing material is collected and delivered to the sanitary sewer or reused as salt brine.
c) Slope loading area away from storm drainage inlets.
d) Design drainage from loading area to collect runoff before entering the drainage system.
e) Wash out vehicles, if necessary, in approved washout area before preparing them for snow removal.
f) Calibrate spreaders to minimize amount of de-icing material used and still be effective.
g) Provide vehicles with spill cleanup kits in case of hydraulic line rupture or other spills.
h) Train employees in spill cleanup procedures and proper handling and storage of de-icing material.

2. Process

a) Carefully load material into trucks to minimize spillage.
b) Periodically dry-sweep loading area to reduce the amount of de-icing material exposed to runoff.
c) Distribute the minimum amount of de-icing material to be effective on pavements.
d) Do not allow spreaders to idle while distributing de-icing material.
e) Park trucks loaded with de-icing material under cover whenever possible.

3. Cleanup

a) Sweep up all spilled de-icing material around loading area.
b) Clean out trucks after snow removal duty in an approved washout area.
c) Provide maintenance for vehicles in covered area.
d) If sand is used in de-icing operations, sweep up residual sand from pavements when weather permits.

4. Documentation

a) Document training of employees.

SOP 20.0 - Stream Maintenance

1. Preparation

a) Monitor streams to determine maintenance needs, or respond to citizen complaints.
b) Identify areas requiring maintenance. Determine who is responsible for maintenance (County, VDOT, others). If it is not the County's responsibility, notify the proper authority. If it is the County's responsibility, then proceed.
c) Check culverts and crossings periodically, or in response to citizen complaints.
d) Determine what manpower or equipment will be required.
e) Identify access and easements to area requiring maintenance.
f) Determine method of maintenance that will be least damaging to the creek.
g) Obtain necessary permits. (i.e., Joint Permit)

2. Process

a) Install erosion and sediment controls, as necessary, prior to initiation of work.
b) Maintain access to stream channels wherever possible.
c) Conduct all maintenance activities while minimizing adverse impacts to the stream.
d) Remove unwanted material (debris, branches, soil) from the creek and place it in a truck to be hauled away to an approved disposal site.

3. Cleanup

a) Stabilize all disturbed soils.
b) Remove all tracked sediments from paved surfaces near maintenance site, if applicable.
c) Haul all collected debris or sediment to approved dumping site.
d) Remove any temporary erosion controls.

4. Documentation

a) Keep a log of maintenance activities, including date, location and individuals involved.
b) Record the amount of materials removed or imported.
c) Keep any notes or comments of any problems.
d) Use "before" and "after" photographs to document activities, as applicable.

SOP 21.0 - Transporting Equipment

1. Preparation

a) Determine equipment needed for transport and method (trailer, truck bed, etc.) needed to transport equipment.
b) Conduct pre-trip inspection of equipment.
c) Bring a spill kit along in the event of a fuel spill or equipment leakage.

2. Process

a) Load and secure equipment on trailer or truck.
b) Load and secure fuel containers for equipment usage.
c) Ensure fuel is stored away from any storm drainage structures.

3. Cleanup

a) Off-load equipment.
b) Store equipment and trailer in a proper location.
c) Conduct post-trip inspection of equipment.
d) Wash equipment, if needed, according to the operating procedure for Cleaning Equipment.

4. Documentation

a) Document training of employees.

SOP 22.0 - Transporting Soil and Gravel

1. Preparation

a) Allow wet materials to dry before transporting.
b) Lightly spray dusty materials with water to keep them from blowing.
a) Be familiar with and understand the Stormwater Pollution Prevention Plan (SWPPP) requirements for the site to/from which the materials are being hauled.
c) Determine where the truck and other equipment will be cleaned after material transport is completed.

2. Process

a) Cover the truck bed with a secured tarp before transporting materials.
b) Follow the SWPPP requirements for the specific site to/from which the materials are being hauled.
c) Make sure not to overfill materials when loading trucks.

3. Cleanup

a) Sweep up any materials tracked out on the roads from the site. Do not use water to rinse them into any storm drainage structure.
b) Wash out truck and other equipment, when needed, in a designated wash area.

4. Documentation

a) Document training of employees.

SOP 23.0 - Transporting Wet Excavated Materials and Spoils

1. Preparation

a) Utilize truck with containment for wet material.
b) Determine disposal site of material.

2. Process

a) Load and transport in a manner to minimize spillage & tracking of material.
b) Check truck for spillage.
c) Utilize one route of transport.

3. Cleanup

a) Clean route of transport to remove any spilled material.
b) Do not use water to rinse spilled materials into any storm drainage structure.
c) Wash out equipment truck and other equipment in designated wash area.

4. Documentation

a) Document training of employees.

SOP 24.0 - Vehicles: Fueling

1. Preparation

a) Train employees on proper fueling methods and spill cleanup techniques.
b) Preferably provide a canopy or roof over fuel transfer areas.
c) Provide absorbent spill cleanup materials and spill kits in fueling areas and on mobile fueling vehicles.
d) Provide containers for disposal of contaminated cleanup materials.

2. Process

a) Shut off the engine.
b) Ensure that the fuel is the proper type of fuel for the vehicle.
c) Ensure nozzles used in vehicle and equipment fueling are equipped with an automatic shut off to prevent overfill.
d) Fuel vehicle carefully to minimize drips to the ground.
e) Do not 'top off' when fueling.
f) Mobile fueling shall be minimized. Whenever practical, vehicles and equipment shall be transported to the designated fueling area in the municipal yard.
g) When fueling small equipment from portable containers, fuel in an area away from storm drains and water bodies.

3. Cleanup

a) Immediately clean up spills using dry absorbent material (i.e., kitty litter, sawdust, etc.). Sweep up used absorbent material and properly dispose of contaminated cleanup material in an approved container.
b) Contain large spills as best as possible, and immediately notify Emergency Services.

4. Documentation/Records

a) Document training of employees.

SOP 25.0 - Vehicles: Vehicle and Equipment Storage

1. Preparation

a) Inspect parking areas for stains/leaks on a regular basis.
b) Provide drip pans or adsorbents for leaking vehicles.

2. Process

a) Whenever possible, store vehicles inside where floor drains have been connected to sanitary sewer system.
b) When inside storage is not available, park vehicles and equipment in approved designated areas.
c) Maintain vehicles to prevent leaks, as much as possible.
d) Address any known leaks or drips, as soon as possible. When a leak is detected, place a drip pan under the leaking vehicle to collect the drip.
e) The shop shall provide a labeled location to empty and store drip pans.
f) If any leaks are discovered, a drip pan shall be used to collect the fluids and the vehicle shall be scheduled for repairs.
g) Cleanup all spills using dry methods.
h) Never store leaking vehicles over a storm drain inlet.

3. Cleanup

a) Clean up any leaks that are spilled on the asphalt using a dry absorbent; sweep up the dry absorbent and dispose of in the trash.

4. Documentation/Records

a) Document training of employees.

SOP 26.0 - Vehicles: Washing

1. Preparation

a) County vehicle wash water shall not be disposed of into storm drains, waterways, or to the ground.
b) Preferably, County vehicles should be washed at commercial vehicle wash facilities or other locations where wash water is disposed of to a sanitary sewer.
c) Where discharge of wash water to a sanitary sewer is not feasible, then wash water must be discharged through a filtering device that is designed to remove the expected pollutants (fuels, oil, grease, heavy metals, sediment), prior to discharge to the ground or storm sewer.
d) The Stormwater Program Manager, in the Department of Community Development, is available to assist in the design of suitable wash areas.
e) The Stormwater Program Manager should be notified of the locations of all wash areas, so that it may be verified that proper measures are in place to address wash water discharge.

2. Process

a) Minimize water use when washing vehicles. Use hoses with automatic shut off nozzles to minimize water usage.
b) Soaps and detergents should not be used when washing vehicles outside; water only. In the event that cleaners are necessary, only use biodegradable and non-toxic cleaners. Many cleaners are advertised as biodegradable but are toxic. An acceptable cleaner is Simple Green Concentrated Car Wash and Simple Green Car Wash and Wax.
c) When washing outside the building, it is the operator's responsibility to make sure all wash water is contained on the wash pad and flows to the filtering device.
d) Never wash vehicles where washwater flows over pavement, into a storm drain, or into a waterway.

3. Cleanup

a) Clean wash areas after washing use to collect any accumulated solids.
b) Maintain and clean filtering devices, as needed.

4. Documentation/Records

a) Document training of employees.

APPENDIX 1

OP-01-002 Floor Drains - Roanoke County Fire and Rescue Department

SOP 2.05 Departmental Vehicles - Roanoke County Sheriff's Office

SOP 3.13 Hazardous Material Plan - Roanoke County Sheriff's Office

SOP 4.19 Tools and HazMat Control - Roanoke County Sheriff's Office

POLICY SECTION:	NUMBER:	PAGES:
Operations		2
SUBJECT: Washing of Vehicles		**APPLICABLE TO:** All Personnel
EFFECTIVE DATE: September 1, 2015	**REVISED DATE:**	

Joey T. Stump
Fire and Rescue Chief

The Departmental policy should not be construed as a creation of a higher legal standard of safety or care in an evidentiary sense with respect to third party claims. Violations of this directive will be basis for departmental administrative sanctions. Violations of law will form the basis for departmental administrative sanctions. Violations of law will form the basis for civil and criminal sanctions in a recognized judicial setting.

I. PURPOSE

The purpose of this policy is to ensure County of Roanoke compliance with the mandated Municipal Separate Storm Sewer System (MS4) permit as required and issued from the Virginia Department of Environmental Quality (DEQ), specifically the washing of vehicles at Public Safety Buildings.

The washing of vehicles and equipment and associated washwater can contain oils and greases, heavy metals, and sediment that can pollute streams. In order to protect and improve the water quality of County streams and to comply with state permit requirements, all discharges from washing operations shall be discharged as follows and as listed below.

II. POLICY

Roanoke County has been divided into two areas for the purpose of storm water and wash water runoff and as defined by DEQ and for the purpose of meeting the mandated MS4 permit. These two classifications are ***urban*** and ***rural*** and further defined is if the building is connected to sanitary sewer.

- Public Safety Buildings classified as urban area stations will not be allowed to wash vehicles outside of the building and must do any washing inside. This includes hosing off of apparatus after return from a call.

- Public Safety Buildings classified as rural are allowed to wash vehicles outside as long as the water run off flows to an earthen grassy area. This run off cannot run into a storm drain or off of the property. These buildings are also allowed to wash vehicles inside.

Urban Classified Stations

North County Station 1
Vinton Station 2
Cave Spring Fire Station 3
Cave Spring Rescue Station 3
Hollins Station 5
Mount Pleasant Station 6
Fort Lewis Station 9
Read Mountain Station 12*

*Read Mountain while physically located outside of Roanoke County is still jointly owned by the county and must comply with the same standards

Rural Classified Station

Catawba Station 4
Clearbrook Station 7
Bent Mountain Station 8
Masons Cove Station 10
Back Creek Station 11