A-55: Road and Roadside Ditch Maintenance

Stormwater runoff (rainwater and snow melt) is the largest source of pollution to our lakes, streams and Puget Sound. King County requires businesses to implement measures to protect our shared waters. If the requirements below do not prevent pollution, additional measures are necessary.

The following best management practices (BMPs) apply to road maintenance programs, both municipal and commercial operations.

Road Maintenance Operations

- Use drip pans or absorbents wherever concrete, asphalt, asphalt emulsion, paint product, and drips are likely to spill, such as beneath discharge points from equipment.
- Cover and contain nearby storm drains to keep runoff from entering the drainage system. For storm drains further away, consider installing catch basin inserts to collect excess sediment and debris as necessary.
- Collect and contain all solids, slurry, and rinse water. Do not allow these to enter gutters, storm drains, or drainage ditches or onto the paved surface of a roadway or driveway.
- Designate an area onsite for washing hand tools and collect that water for disposal.
- Do not use diesel fuel for cleaning or prepping asphalt tools and equipment.
- Sweep areas as frequently as needed. Collect all loose aggregate and dust for disposal. Do not hose down areas into storm drains.
- Store all fuel, paint, and other products on secondary containment.
- Conduct paint striping operations during dry weather.
- Intensify roadway and drainage structure cleaning in early spring to help remove particulates from road surfaces.

Street Sweeping Operations

- Facilities not covered under the Industrial Stormwater General Permit may consider a minimum amount of water washing of streets.
- All operations, both municipal and commercial, must comply with their local stormwater requirements for discharging to stormwater drainage systems. Municipal NPDES permittees are required to limit street wash water discharges and may have special conditions or treatment requirements.
- Conduct vacuum sweeping at optimal frequencies. Optimal frequencies are those scheduled sweeping intervals that produce the most cost-effective annual reduction of pollutants normally found in stormwater and can vary depending on tree cover, land use, traffic volume, receiving water, and rainfall patterns.

- Train operators in those factors that result in optimal pollutant removal. These factors include sweeper speed, brush adjustment and rotation rate, sweeping pattern, maneuvering around parked vehicles, and interim storage and disposal methods.
- Consider the use of periodic parking restrictions in low to medium density single-family residential areas to ensure the sweeper's ability to sweep along the curb.
- Establish programs for prompt vacuum sweeping, removal, and disposal of debris from special events that will generate higher than normal loadings.
- Do not sweep during rain events, if you can avoid it. The hopper on the sweeper will fill quickly with water from the street. Dispose of the combined water and solids at a decant facility, if possible.
- Typical street waste solids are regulated by the Washington Administrative Code (WAC) Solid Waste Handling Standards (WAC 173-350).
- Ecology has provided guidance for solid waste management, per WAC 173-350. For additional information, please refer to the Department of Ecology's *Stormwater Management Manual for Western Washington,* Volume IV: Source Control BMP Library, Appendix IV B: Management of Street Waste Solids and Liquids (https://fortress.wa.gov/ecy/ezshare/wq/SWMMs/2024SWMMWW/2024_SWMMWW.htm).

Deicing and Anti-Icing Operations

- Adhere to manufacturer's guidelines and industry standards of use and application.
- Store and transfer deicing and anti-icing materials on impervious containment pads, or an equivalent spill/leak containment area.
- Sweep/clean up accumulated deicing and anti-icing materials and grit from roads as soon as possible after the road surface clears.
- Minimize use in areas where runoff or spray from the roadway immediately enters sensitive areas such as fish-bearing streams.
- Where feasible and practicable, use roadway deicing chemicals that cause the least
- adverse environmental impact. Apply only as needed using minimum quantities. Consider the Pacific Northwest Snowfighters Qualified Products List when selecting roadway deicers and anti-icers.
- Include limits on toxic metals in the specifications for de/anti-icers.

Ditch Maintenance

- *Note that work in wet areas may be regulated by local, state, or federal regulations that impose additional obligations on the responsible party. Check with the appropriate authorities prior to beginning work in those areas.*
- Inspect roadside ditches regularly to identify sediment accumulations and localized erosion.

- Clean ditches on a regular basis, as needed. Keep ditches free of rubbish and debris.
- Vegetation in ditches often prevents erosion and cleanses runoff waters. Remove vegetation only when flow is blocked or excess sediments have accumulated. Conduct ditch maintenance (seeding, fertilizer application, harvesting) in late spring and/or early fall, where possible. This allows re-establishment of vegetative cover by the next wet season, thereby minimizing erosion of the ditch as well as making the ditch effective as a biofilter.
- Do not apply fertilizer unless needed to maintain vegetative growth.
- In the area between the edge of the pavement and the bottom of the ditch, commonly known as the "bare earth zone," use grass vegetation, wherever possible. Establish vegetation from the edge of the pavement, if possible, or at least from the top of the slope of the ditch.
- Maintain diversion ditches on top of cut slopes constructed to prevent slope erosion by intercepting surface drainage to retain their diversion shape and capability.
- Use temporary erosion and sediment control measures or re-vegetate as necessary to prevent erosion during ditch reshaping.
- Do not leave ditch cleanings on the roadway surfaces. Sweep, collect, and dispose of dirt and debris remaining on the pavement at the completion of ditch cleaning operations as described below:
    - Consider screening roadside ditch cleanings, not contaminated by spills or other releases and not associated with a runoff treatment BMP such as a biofiltration swale, to remove litter. Separate screenings into soil and vegetative matter (leaves, grass, needles, branches, etc.) categories. Compost or dispose of the vegetative matter in a municipal waste landfill. Consult with the jurisdictional health department to discuss use or disposal options for the soil portion. For more information, see Appendix IV-B: Management of Street Waste Solids and Liquids.
    - Roadside ditch cleanings contaminated by spills or other releases known or suspected to contain dangerous waste must be handled following the Dangerous Waste Regulations (Chapter 173 303 WAC). If testing determines materials are not dangerous waste but contaminants are present, consult with the jurisdictional health department for disposal options.
- Examine culverts on a regular basis for scour or sedimentation at the inlet and outlet, and repair as necessary. Give priority to those culverts conveying perennial and/or salmon bearing streams and culverts near streams in areas of high sediment load, such as those near subdivisions during construction. Maintain trash racks to avoid damage, blockage, or erosion of culverts.
- It is encouraged to install biofiltration swales and filter strips to treat roadside runoff wherever practicable and use engineered topsoils wherever necessary to maintain adequate vegetation. These systems can improve infiltration and stormwater pollutant control upstream of roadside ditches.

Additional Information

- Potential pollutants can include: hydrocarbons—such as gasoline and diesel, metals, nutrients, oil and grease, oxygen demanding substances, PCBs, pH, sediment, and other pollutants.
- *Stormwater Pollution Prevention Manual*, Chapter 3: Commercial and Multifamily BMPs
    - A-5: Storage and Use of Pesticides and Fertilizers
    - A-11: Cleaning or Washing of Tools and Equipment
    - A-26: Landscaping Activities, Vegetation Maintenance, and Irrigation
    - A-40: Street Deicing Operations
    - A-48: Mobile Fueling of Vehicles and Heavy Equipment
- Washington State Department of Ecology, Report a Spill of Oil or Hazardous Materials (https://ecology.wa.gov/footer-pages/report-an-environmental-issue/report-a-spill)
- Washington State Department of Ecology, *Stormwater Management Manual for Western Washington,* Volume IV: Source Control BMP Library (https://fortress.wa.gov/ecy/ezshare/wq/SWMMs/2024SWMMWW/2024_SWMMWW.htm)

For more information or assistance contact the King County Stormwater Services at 206–477–4811 and visit kingcounty.gov/stormwater.