A-17: Stationary Fueling Operations

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 the fueling of vehicles and equipment, including gas stations and fuel pumps to service equipment or vehicles.

- For fueling operations installed prior to July 1995 that have not undergone any substantial remodel, refer to the required BMPs in the applicable section below.
- For fueling operations where the fuel pumps were constructed or substantially remodeled after July 1995, refer to the required BMPs in the applicable section below.

"Substantial remodel" means replacing the canopy, adding fuel tanks, or relocating or adding one or more fuel dispensers in such a way that modifies the impervious concrete paving in the fuel area.

For mobile fueling operations see activity sheet A-48: Mobile Fueling of Vehicles and Heavy Equipment. For in-water and over-water fueling operations, see activity sheet A-30: In and Over Surface Water Activities.

All BMPs related to fueling must be consistent with the requirements of the King County Fire Code (KCC 17.04). The water quality requirements presented in this manual are separate from, and in addition to, the requirements of the King County Fire Code.

Fueling Operations Constructed Before July 1995 with No Substantial Remodel After July 1995

Required BMPs

- Pave and contain the fueling area with impervious concrete (e.g., Portland cement). The fueling area (spill containment pad) shall have a sill or berm raised to a minimum of four inches to prevent the runoff of spilled liquids and to prevent run-on of stormwater from the surrounding area. Raised sills are not required at the open-grate trenches that connect to an approved drainage-control system.
- Cover the fueling area with a roof or canopy or in lieu of covering the fueling area (if the fuel pumps were installed prior to July 1995):
    - Maintain spill materials and drip pans at all times next to the fueling area.
    - For non-retail fueling operations, post a sign stating that a drip pan must be used during fueling and that all spills and drip must be cleaned up immediately.
    - Should subsequent inspections find evidence of spilled fuel on the ground or stormwater contamination, then the fueling area must be covered.

- Drains from the spill containment pad of a fueling areas with a roof or canopy must have a normally closed shutoff valve. The valve may be opened to convey stormwater with residual contamination to an oil control treatment system (e.g., an oil/water separator, catch basin insert, or equivalent treatment) which then discharges to:
    - At a minimum, a basic treatment system (e.g., sand filter, filter strips, water quality vault) prior to discharging to a storm drainage system, surface water or ground; or
    - a sanitary sewer. Approval from the local sewer authority is required for conveyance of any fuel-contaminated stormwater to a sanitary sewer. State and local regulations prohibit discharges that could cause a fire or explosion (WAC, Section 173-216-060; KCC 28.84.060). For conveyance to the sanitary sewer, a catch basin shall be installed upstream of the oil control treatment system, and a normally closed shutoff valve is required at the discharge point of the oil control treatment system.
- In the case of a fuel spill, spilled fuel must be pumped from the drains or catch basins and must be treated and disposed of offsite in accordance with Department of Ecology regulations. The valve may only then be opened to convey stormwater with residual contamination.
- Discharges from the treatment systems (oil control treatment system and basic treatment system) to storm drainage systems, surface water or to the ground must not display ongoing or recurring visible sheen and must not contain oil or grease.
- Alternatively, collect runoff from the spill containment pad in a dead-end sump and hold for proper off-site disposal. The dead-end sump must be easily inspected, maintained, and pumped.
- If a roof or canopy is infeasible, then the concrete fueling pad must be equipped with emergency spill control features including a shutoff valve for drainage from the fueling area. The drainage shutoff valve may be kept open to convey stormwater with residual contamination from the fueling pad.
- Maintain the valve in the closed position during a spill event and cleanup. An electronically actuated valve is preferred to minimize the time lapse between spill and containment.
- In the case of a fuel spill, spilled fuel must be pumped from the drains or catch basins and must be treated and disposed of offsite in accordance with Department of Ecology regulations. The valve may only then be reopened to convey stormwater with residual contamination.:
    - to a sanitary sewer, if approved by the sewer authority, or
    - to an oil control treatment system (e.g., an oil/water separator, catch basin insert, or equivalent treatment), and then, at a minimum, to a basic treatment system (e.g., sand filter, filter strips, water quality vault). Discharges from treatment systems to storm drain system or surface water must not display ongoing or recurring visible sheen and must not contain oil or grease.

Required Operational BMPs

- Train employees on the proper use of fuel dispensers.
- Use drip pans or absorbent pads under all hose connections to capture drips or spills during fuel transfers.
- Post signs in accordance with the International Fire Code (IFC) or International Fire Code (IFC). Post "No Topping Off" signs. Topping off fuel tanks results in spillage and vents gasoline fumes to the air. Post signs that ban customers and employees from changing engine oil or other fluids at that location.
- The person conducting the fuel transfer must be present at the fueling pump during fuel transfer. It is encouraged to post "Stay with Vehicle During Fueling" signage near fuel dispensers.
- Make sure that the automatic shutoff on the fuel nozzle is functioning properly.
- Prepare an emergency spill response and cleanup plan. Have designated trained person(s) available either on-site or on call at all times to implement the plan promptly and properly and immediately cleanup all spills.
- Keep suitable cleanup materials, such as dry adsorbent materials, on-site to allow prompt cleanup of a spill. Do not use dispersants or soap to clean up spills or sheens.
- Immediately notify Ecology, the local jurisdiction, and the local sewer authority if a spill may reach sanitary or storm sewers, ground water, or surface water, in accordance with federal and Ecology spill reporting requirements.
- Sweep or vacuum up sediment and debris in the fueling area as needed. Never hose down the fueling area to the storm drains. Contaminated runoff must be collected for proper disposal.
- Keep drained oil filters in a closed, leak-proof container or drum.
- Transfer the fuel from the delivery tank trucks to the fuel storage tank over impervious, contained areas and ensure that appropriate overflow protection is used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.
- Store and maintain appropriate spill cleanup materials in a location known to all employees.

Supplemental BMPs

- Use absorbent materials in or around catch basin inlets on the property to filter oily runoff. Properly dispose of absorbent materials.
- Install a catch basin insert configured for oil removal. The oil absorbent filter media must retain absorbed oil during future storm events.

Fueling Operations Constructed or Substantially Remodeled

After July 1995

Required BMPs

- Design the fueling island to minimize stormwater contamination, to control spills, and to collect and direct contaminated stormwater and/or wastewater for treatment.
- The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the spill containment pad. At a minimum, cover the spill containment pad (within the grade break or fuel dispensing area) and extend several additional feet to reduce the introduction of windblown rain.
    - Roofs and canopies 10 feet or less in height must have a minimum overhang of 3 feet on all sides.
    - Roofs and canopies greater than 10 feet in height mush have a minimum overhand of 5 feet on each side.
- Convey runoff collected from the roof and canopy to a stormwater drainage system or receiving water outside of the spill containment pad. This will prevent mixing of uncontaminated runoff from the roof or canopy with contaminated runoff collected on the spill containment pad.
- Design the fueling island as a spill containment pad with a sill or berm, raised to a minimum of four inches, to prevent the runoff of spilled liquids and to prevent the run-on of stormwater from the surround area. Raised sills are not required at the open-grate trenches that connect to an approved drainage-control system.
- The spill containment pad must be constructed of impervious concrete. Asphalt is not acceptable.
- Slope the spill containment pad around the fueling island towards the spill containment pad drains; either trench drains, catch basins and/or a dead-end sump. The slope of the drains shall not be less than 1 percent.
- Drains from the spill containment pad must have a normally closed shutoff valve. The valve may be opened to convey stormwater with residual contamination to an oil control treatment system (e.g., oil/water separator, catch basin insert, or equivalent treatment) which then discharges to:
    - at a minimum, a basic treatment system (e.g., sand filter, filter strips, water quality vault) prior to discharging to a storm drainage system, surface water or ground, or
    - a sanitary sewer. Approval from the local sewer authority is required for conveyance of any fuel-contaminated stormwater to a sanitary sewer. State and local regulations prohibit discharges that could cause a fire or explosion (WAC, Section 173-216-060; KCC 28.84.060). For conveyance to the sanitary sewer, a catch basin shall be installed upstream of the oil control treatment system, and a normally closed shutoff valve is required at the discharge point of the oil control treatment system.

- In the case of a fuel spill, spilled fuel must be pumped from the drains or catch basins and must be treated and disposed of offsite in accordance with Department of Ecology regulations. The valve may only then be opened to convey stormwater with residual contamination.
- Discharges from the treatment systems (oil control treatment and basic treatment system) to storm drainage systems, sanitary sewer, surface water or to the ground must not display ongoing or recurring visible sheen and must not contain oil or grease.
- Alternatively, collect runoff from the spill containment pad in a dead-end sump and hold for proper off-site disposal. The dead-end sump must be easily inspected, maintained, and pumped.
- The minimum spill retention volume of the oil control treatment system or dead-end sump shall be:
    - 15 minutes for the flow rate of the dispensing mechanism with the highest through-put rate, or
    - if the area is uncovered, the 15-minute peak flow rate of the 6-month, 24-hour storm event over the surface of the spill containment pad – whichever is greater.
    - The volume of the dead-end sump shall be a minimum of 50 gallons with an adequate grit sedimentation volume.

Additional Required BMPs for Vehicles or Equipment 10 feet in height or greater

A roof or canopy may not be feasible at fueling stations that regularly fuel vehicles or equipment that are 10 feet in height or greater. At those types of fueling facilities, the following BMPs apply, as well as other applicable BMPs for fueling stations:

- If a roof or canopy is infeasible, then the concrete fueling pad must be equipped with emergency spill control features including a shutoff valve for drainage from the fueling area. The drainage shutoff valve may be kept open to convey stormwater with residual contamination from the fueling pad.
- Maintain the valve in the closed position during a spill event and cleanup. An electronically actuated valve is preferred to minimize the time lapse between spill and containment.
- In the case of a fuel spill, spilled fuel must be pumped from the drains or catch basins and must be treated and disposed of offsite in accordance with Department of Ecology regulations. The valve may only then be reopened to convey stormwater with residual contamination.:
    - to a sanitary sewer, if approved by the sewer authority, or
    - to an oil control treatment system (e.g., an oil/water separator, catch basin insert, or equivalent treatment), and then, at a minimum, to a basic treatment system (e.g., sand filter, filter strips, water quality vault). Discharges from treatment systems to stormwater drainage systems, sanitary sewer or surface water must not display ongoing or recurring visible sheen and must not contain oil or grease.

Required Operational BMPs

- Train employees on the proper use of fuel dispensers.
- Post signs in accordance with the International Fire Code (IFC). Post "No Topping Off" signs. Topping off fuel tanks results in spillage and vents gasoline fumes to the air.
- The person conducting the fuel transfer must be present at the fueling pump during fuel transfer. It is encouraged to post "Stay with Vehicle During Fueling" signage near fuel dispensers.
- Make sure that the automatic shutoff on the fuel nozzle is functioning properly.
- Prepare an emergency spill response and cleanup plan. Have designated trained person(s) available either on-site or on call at all times to implement the plan promptly and properly and immediately cleanup all spills.
- Keep suitable cleanup materials, such as dry adsorbent materials, on-site to allow prompt cleanup of a spill. Do not use dispersants or soap to clean up spills or sheens.
- Immediately notify Ecology, the local jurisdiction, and the local sewer authority if a spill reaches sanitary or storm sewers, ground water, or surface water, in accordance with federal and Ecology spill reporting requirements.
- Sweep or vacuum the fueling area as needed to collect sediment and debris. Never hose down the fueling area to the storm drains. Contaminated runoff and spills must be collected for proper disposal.
- Keep drained oil filters in a closed leak-proof container or drum.
- Transfer the fuel from the delivery tank trucks to the fuel storage tank over impervious, contained areas and ensure that appropriate overflow protection is used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.

Supplemental BMPs

- Use absorbent materials in or around catch basin inlets on the property to filter oily runoff. Properly dispose of all gas and oil-contaminated absorbents
- A catch basin inserts configured for oil removal may remove some of the pollutants in runoff. The oil-absorbent filter media must be able to retain absorbed oil during future storm events. Replace the filter media if the absorption capacity has been surpassed. See the *King County Surface Water Design Manual* for more information regarding which filter media provide acceptable oil retention.

Additional Information

- Potential pollutants can include: hydrocarbons—gasoline and diesel, metals, oil and grease, and oxygen demanding substances.
- *Stormwater Pollution Prevention Manual*, Chapter 3: Commercial and Multifamily BMPs
    - A-30: In and Over Surface Water Activities

    - A-48: Mobile Fueling of Vehicles and Heavy Equipment
- *Stormwater Pollution Prevention Manual*, Chapter 5: Information Sheets
    - Catch Basin Insert
    - Containment
    - Covering
    - Oil/Water Separators
    - Spill Response and Clean-up Plan
- *King County Surface Water Design Manual*

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