

**SDOT BEST MANAGEMENT PRACTICES
(BMP) REFERENCE MANUAL**

Street Maintenance Operations
Off Hours Emergency Report

December 2008

SDOT BEST MANAGEMENT PRACTICES (BMP) REFERENCE MANUAL

Street Maintenance Operations Off Hours Emergency Report

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This best management practice (BMP) reference manual was written to assist you, an SDOT field crew member, in preventing pollution from impacting stormwater. Your actions in the field contribute significantly to preventing stormwater pollution and keeping our streams, lakes, and Puget Sound clean. These manuals also help SDOT comply with the City of Seattle's Stormwater Permit.

We would like to receive your feedback on the information this manual contains. Direct feedback; questions regarding any of the BMPs listed; and information about missing work tasks, pollution sources, or missing BMPs should be directed to Maureen Meehan (SDOT's NPDES Stormwater Advisor) at (206) 684-8750.

To report a spill or any illegal dumping issues you observe while in the field, please call the SPU Water Quality Hotline at (206) 684-7587.

SDOT Manual Name	RCAT	RCAT Description
Street Maintenance Operations 2. Off Hours Emergency Report	112	Nightshift Cleaning

Description of Work

Manual cleaning of streets, alleys, sidewalks, and related street features that are routinely cleaned by nightshift crews including nightshift cleaning of radii, stairways and malls in the Central Business District, Waterfront, Public Market, and International District.

Objectives

Reduce sediments and contaminants, such as petroleum hydrocarbons, heavy metals, road wash-off, and debris from reaching the storm drain system, watercourse, stream system, and other water bodies. Reduce occurrence of flooding and debris-clogged drain inlets.

Site Preparation

1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.
2. **Sweeping:**
 - Sweeping may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose). Washing is not an alternative to sweeping because of the risk of pollutant transport.
 - Schedule snow sand removal as part of the snow and ice emergency response.

BMP Maintenance During Site Work

1. **Sweeping** (see Figure 1):
 - Do not sweep up any unknown substance or any object that may be potentially hazardous.
 - Prevent sediment from entering drainage systems.
2. *Optional BMP:* Avoid the activity when rain is falling or expected, where feasible.

Site Cleanup

Waste Disposal: Properly dispose of waste at an approved dump site after sweeping is finished.



Figure 1. Manual cleaning of City streets.

References

Regional Road Maintenance Endangered Species Act Program Guidelines (Regional Road Maintenance Technical Working Group 2002)	Construction Stormwater Control Technical Requirements Manual (Seattle 2009)
2.152 - Sweeping	E3.70 - Street Sweeping and Vacuuming

SDOT Manual Name	RCAT	RCAT Description
Street Maintenance Operations 5. Off Hours Emergency Report	140	Emergency Laborer Support - Cleaning

Description of Work

Inspection and emergency maintenance of street system during nights, weekends, and holidays including temporary patching of streets.

Objectives

Reduce sediments and contaminants, such as petroleum hydrocarbons, heavy metals, road wash-off, snow sand, and water with high pH from reaching the stormwater, watercourse, stream system, and other water bodies. Reduce occurrence of flooding and debris-clogged drain inlets.

Site Preparation

1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.
2. **Sweeping:**
 - Sweeping and vacuuming (see Figure 1) may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose). Washing is not an alternative to sweeping and vacuuming because of the risk of pollutant transport.
 - Schedule snow sand removal as part of the snow and ice emergency response.



Figure 1. Mechanical street sweeping.

3. Storm Drain Covers and Catch Basin Filter Socks:

- Install drain covers (see Figure 2) on any catch basin or storm drain inlets that are connected to the storm drain system and are located downslope or adjacent to the work area.
- Install catch basin filter socks in any structures that are **greater than 12 inches deep** (see Figure 3).
 - Place the appropriate size filter sock in the storm drain or catch basin.
 - Place the storm drain or catch basin grate on top of the filter sock to hold it in place.
 - Trim and remove filter sock material that extends beyond the grate.



Figure 2. Storm drain cover.



Figure 3. Catch basin filter sock.

BMP Maintenance During Site Work

1. Sweeping:

- Control the number of points where vehicles can leave the site to allow focused sweeping and vacuuming efforts.
- Control speed of sweeper to minimize airborne particulates and remove maximum amount of debris.
- Use water spray system on sweeper to reduce dust.
- Use pickup brooms in sensitive areas.
- Do not sweep up any unknown substance or any object that may be potentially hazardous.
- Adjust brooms frequently; maximize efficiency of sweeping operations.
- Do not use kick brooms or sweeper attachments.
- Prevent sediment from entering drainage systems.
- *Optional BMP:* Avoid the activity when rain is falling or expected, where feasible.

2. **Catch Basin Filter Socks:** Clean or remove and replace filter sock when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).

3. **Street Patching:**

- Vacuum slurry and cuttings during the activity to prevent migration off site (see Figure 4).
- Collect, treat and properly dispose of runoff that comes in contact with diesel or coatings used in asphalt applications.
- Continually monitor operations to determine whether cuttings or wastewater could enter the stormwater system. If observations indicate that a violation of water quality standards could occur, stop operations and immediately implement preventative measures such as berms, barriers, secondary containment, and vector trucks.
- Wash off hand tools only into formed areas awaiting installation of asphalt or concrete. A temporary sump can also be used to collect and contain wash water.
- Dispose of collected slurry and cuttings in a manner that does not violate groundwater or surface water quality standards.
- Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.



Figure 4. Sawcutting and vacuuming.

4. *Optional BMPs:*

- Avoid the activity when rain is falling or expected, where feasible.

- Cover portable asphalt mixing equipment with an awning, a lean-to, or other simple structure to avoid contact with rain, if possible.
- Use a sandbag barrier or containment berm to direct stormwater run-on around the construction site (see Figure 5).



Figure 5. Containment berm example.

Site Cleanup

1. **Storm Drain Covers:** Remove drain covers from the catch basin or storm drain inlets.
2. **Catch Basin Filter Socks:** Remove the filter sock and dispose of the collected sediment in a suitable container to be hauled offsite. Reuse the filter sock at another site if it remains in good condition (e.g., no rips, tears, or visible staining).
3. **Sweeping:**
 - Clean equipment and tools offsite in an area where pollutants can be contained.
 - Properly dispose of sweeper wastes at an approved dump site after sweeping is finished.
5. **Waste Disposal:**
 - Sweep or shovel loose aggregate chunks and dust and collect for recycling or proper disposal at the end of each workday (see Figure 6).
 - Remove waste material from site and dispose of properly.



Figure 6. Manual sweeping.

References

Regional Road Maintenance Endangered Species Act Program Guidelines (Regional Road Maintenance Technical Working Group 2002)	Construction Stormwater Control Technical Requirements Manual (Seattle 2009)	Source Control Technical Requirements Manual (Seattle 2009)	Stormwater Management Manual for Western Washington (Ecology 2005)	Highway Runoff Manual (WSDOT 2008)
2.152 - Sweeping 2.37 - Concrete Containment (2) 2.79 - Inlet Protection	C1.20 - Use of Chemicals During Construction C1.35 - Sawcutting and Paving Pollution Prevention C1.45 - Solid Waste Handling and Disposal E3.25 - Storm Drain Inlet E3.70 - Street Sweeping and Vacuuming	BMP16 - Concrete Pouring, Concrete/Asphalt Cutting, and Asphalt Application BMP 32 - Dust Control at Manufacturing Sites	C151 - Concrete Handling C152 - Sawcutting and Surfacing Pollution Prevention	6A-2.33 - Concrete Handling

SDOT Manual Name	RCAT	RCAT Description
Street Maintenance Operations 5. Off Hours Emergency Report	141	Emergency Laborer Support - Traffic

Description of Work

Inspection and emergency maintenance of traffic signs, signals, guardrails, and other miscellaneous traffic-related items on the street system during nights, weekends, and holidays.

Objectives

Prevent sediment, sand, cement, gravel, or soap associated with cleaning, installation, or maintenance of street signs from entering drainage systems, sensitive areas, and water bodies.

Site Preparation

1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

2. **Storm Drain Covers and Catch Basin Filter Socks:**
 - Install drain covers (see Figure 1) on any catch basin or storm drain inlets that are connected to the storm drain system and are located downslope or adjacent to the work area.
 - Install catch basin filter socks in any structures that are greater than 12 inches deep (see Figure 2).
 - Place the appropriate size filter sock in the storm drain or catch basin.
 - Place the storm drain or catch basin grate on top of the filter sock to hold it in place.
 - Trim and remove filter sock material that extends beyond the grate.



Figure 1. Storm drain cover.



Figure 2. Catch basin filter sock.

BMP Maintenance During Site Work.

1. **Catch Basin Filter Socks:** Clean or remove and replace filter sock when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).

2. **Concrete Paving:**
 - Vacuum slurry and cuttings during the activity to prevent migration off site (see Figure 3) and do not leave slurry and cuttings on permanent concrete or asphalt paving.

 - Continually monitor operations to determine whether cuttings or wastewater could enter the stormwater system. If observations indicate that a violation of water quality standards could occur, stop operations and immediately implement preventative measures such as berms, barriers, secondary containment, and vector trucks.

 - Wash off hand tools (e.g., screeds, shovels, rakes, floats, trowels) only into formed areas awaiting installation of asphalt concrete or use a temporary sump to collect and contain wash water.

 - Perform exposed aggregate washing with a mechanism for containment and collection of the discarded concrete slurry and dispose of the slurry properly.

 - Clean concrete application and mixing equipment or concrete-delivery vehicles on the work site only in a designated area where the rinse water is controlled. Do not discharge to the sanitary sewer without prior approval from King County.



Figure 3. Sawcutting and vacuuming.

3. *Optional BMPs:*

- Avoid the activity when rain is falling or expected, where feasible.
- Use a sandbag barrier or containment berm to direct stormwater run-on around the construction site (see Figure 4).



Figure 4. Containment berm example.

Site Cleanup

1. **Storm Drain Covers:** Remove drain covers from the catch basin or storm drain inlets.
2. **Catch Basin Filter Socks:** Remove the filter sock and dispose of the collected sediment in a suitable container to be hauled off site. Reuse the filter sock at another site if it remains in good condition (e.g., no rips, tears, or visible staining).
3. **Waste Disposal:**
 - Sweep or shovel loose aggregate chunks and dust and collect for recycling or proper disposal at the end of each workday (see Figure 5).
 - Remove waste material from site and dispose of properly.
 - Remove material from temporary sump after cleanup is complete.
 - Dispose of collected slurry and cuttings in a manner that does not violate groundwater or surface water quality standards.
4. *Optional BMP:* Recycle broken concrete.



Figure 5. Manual sweeping.

References

Regional Road Maintenance Endangered Species Act Program Guidelines (Regional Road Maintenance Technical Working Group 2002)	Construction Stormwater Control Technical Requirements Manual (Seattle 2009)	Source Control Technical Requirements Manual (Seattle 2009)	Stormwater Management Manual for Western Washington (Ecology 2005)
2.79 - Inlet Protection 2.152 - Sweeping	E3.70 - Street Sweeping and Vacuuming E3.25 - Storm Drain Inlet Protection	BMP 9 - Washing, Pressure Washing, and Steam Cleaning of Vehicles, Equipment, and Building Structures BMP 32 - Dust Control at Manufacturing Sites	C220 - Inlet Protection

SDOT Manual Name	RCAT	RCAT Description
Street Maintenance Operations 5. Off Hours Emergency Report	142	Emergency Laborer Support - Landscape

Description of Work

Inspection and emergency maintenance of formally-landscaped areas and City trees during nights, weekends, and holidays.

Objectives

Implement proper landscaping and mulching techniques to prevent plant material and excess mulch from entering drainage systems. Reduce stormwater contamination from soils and tree debris.

Site Preparation

1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.
2. *Optional BMP:* Use manual or mechanical methods of vegetation removal rather than applying herbicides, where practical.

BMP Maintenance During Site Work

1. **Landscaping:**
 - Use mulch or other erosion control measures when soils will be exposed for more than 1 week during the dry season (May 1 to September 30) or 2 days during the rainy season (October 1 to April 30).
 - *Optional BMPs:*
 - Mulch and mow whenever practical (see Figure 1).
 - Till a topsoil mix or composted organic material into the soil to create a well-mixed transition layer that encourages deeper root systems and greater drought-tolerance.
 - Mulch used within the ordinary high-water (OHW) mark of surface waters should be selected to minimize potential flotation of organic matter. Composted organic materials have higher specific gravities (i.e., densities) than straw, wood, or chipped material.
 - Remulch and/or protect any areas that experience erosion with a net or blanket. If the erosion problem is drainage related, then the problem shall be fixed and the eroded area remulched.

2. Tree Removal:

- Use selective (rather than wholesale) removal of trees to conserve soils and reduce wood wastes. Avoid indiscriminate removal of trees and other beneficial vegetation.
- Retain the duff layer, native top soil, and natural vegetation in an undisturbed state to the maximum degree practicable.

Site Cleanup

1. **Waste Disposal:** Do not dispose of collected vegetation in separate storm drainage systems, waterways, water bodies, or greenbelt areas (see Figure 2).
2. *Optional BMP:* Dispose of grass clippings, leaves, sticks, and other collected vegetation by composting, if feasible.



Figure 1. Applying mulch.



Figure 2. Hand sweeping.

References

Construction Stormwater Control Technical Requirements Manual (Seattle 2009)	Source Control Technical Requirements Manual (Seattle 2009)	Stormwater Management Manual for Western Washington (Ecology 2005)
E1.30 - Preserving Natural Vegetation C1.45 - Solid Waste Handling and Disposal	BMP 20 - Landscaping and Lawn and Vegetation Management	C121 - Mulching C101 - Preserving Natural Vegetation

SDOT Manual Name	RCAT	RCAT Description
Street Maintenance Operations 5. Off Hours Emergency Support	143	Emergency Laborer Support – Roadway Structures

Description of Work

Inspection and emergency response relating to bridges, elevated roadways, and retaining walls during nights, weekends, and holidays.

Objectives

Prevent sediment, debris, paint and paint chips, lubricants, concrete, wood chips, sawdust, slag and metal, or other contaminants from falling into watercourses or streams or from being carried into surface water by precipitation.

Site Preparation

When used in watercourses or streams, these Best Management Practices (BMPs) must be used in accordance with permit requirements. Inspect and maintain BMPs according to guidelines specified in applicable permits.

1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.
2. **Equipment Maintenance:** Remove buildup of oils and grease on equipment.
3. **Work Windows:** Schedule bridge maintenance in a seasonal watercourse or stream during dry conditions, low tide, or low flow conditions, if possible.
4. **Diaper/Netting:**
 - Do not use diaper/netting during periods of high winds.
 - Install diaper/netting (a suspended fine mesh netting or canvas) under the bridge where work will be performed to catch debris during maintenance activities.
 - Install multiple nets with different mesh sizes if necessary. When using multiple nets, mesh size should become progressively smaller from top to bottom.
 - Attach diaper/netting securely prior to starting work; ensure that diaper/netting does not enter the water.
5. **Plywood Work Platform:**
 - Do not use a plywood work platform where spans exceed 16 feet from bent to bent.

- Install framework with 4-inch x 6-inch joists 16 inches on center which span the stream (see Figure 1).
- Place 3/4-inch x 4-foot x 8-foot plywood flat and tight, edge to edge, on joists, and tacked with 6 d nails for easy removal.
- Place tarps over the plywood deck and drape them vertically, approximately 36 inches high at the abutment wall of the deck, and over the hand rails at the other edges.
- Use an under bridge inspection truck (UBIT), depending on location and scope of work.
- Ensure that plywood platform and tarp do not enter the water.



Figure 1. Plywood work platform.

6. Airborne Debris Curtain:

- Install airborne debris curtains (see Figure 2) for activities related to exposed construction, repair, or cleaning including spraying, pressure washing, surface preparation, sand blasting, paint removal, sanding, and painting.
- Contain blasting and spraying activities by hanging tarpaulins or using plywood and/or plastic sheeting to block the wind and prevent dust and overspray from escaping.
- Do not perform uncontained spray painting, blasting, or sanding activities over open water without proper protection (e.g., overspray collection, drop clothes, booms).
- Avoid collecting debris in areas subject to foot or vehicular traffic to limit offsite tracking of pollutants.



Figure 2. Airborne debris curtain.

7. **Turbidity Curtain** (for seawall work or other work occurring within a watercourse or stream):

- **Follow “Fish Exclusion Protocol” (Regional Road Maintenance Endangered Species Act Program Guidelines, Appendix E) and permit conditions during maintenance activities.** Exclude fish from the construction area using appropriate methods such as capture with netting, dewatering at a controlled rate, and removal of stranded fish according to HPA permit conditions.
- Install turbidity curtain (typically preassembled in 50-foot lengths) prior to the start of work and according to the manufacturer’s recommendations and applicable permit requirements (see Figure 3).
- Do not deploy the turbidity curtain across the entire flow of the watercourse or stream, across more than 2/3 of the main flow of any salmonids bearing water at the time of the year when any life history stage of salmonids are expected to be present, or where flow volume or water velocity will inhibit turbidity curtain function.
- Add a suitable weight or anchoring system to the bottom edge of the curtain.

BMP Maintenance During Site Work

1. **Inspections:**

- Inspect BMPs at least once during the work day.
- Schedule additional inspections during storm events and make any required repairs.

2. **Diaper/Netting and Plywood Work Platform:** Repair rips or tears in diaper/netting or tarps.



Figure 3. Turbidity curtain.

3. **Waste Material Storage:** Collect spent abrasives from sandblasting and other waste materials regularly and contain and store them under cover until they can be disposed of properly.

Site Cleanup

1. Inspections:

- Evaluate site to determine if BMPs are no longer needed.
- Inspect BMPs after job is complete to make sure diaper/netting and tarps are in good repair for next project.

2. Diaper/Netting and Plywood Work Platform:

- Remove debris on diaper/netting, tarps, or plywood work platforms.
- Remove diaper/netting and tarps used on plywood work platforms carefully after work, not allowing debris to fall (recycle and/or reuse if applicable).

3. Turbidity Curtain:

- Remove turbidity curtains in such a manner as to minimize turbidity; allow soil particles to settle before removing the curtain.
- Ensure that water discharged from turbidity curtain meets permit requirements at the point of discharge.

4. Waste Disposal:

- Prevent discharge of any wastewaters to watercourses or streams.

- Do not pour material down drains or hose down work areas.
 - Use either dry sweeping or damp mopping.
5. **Site Remediation:** Revegetate bridge abutment area disturbed by maintenance activities (if applicable).

References

Regional Road Maintenance Endangered Species Act Program Guidelines (Regional Road Maintenance Technical Working Group 2002)	Construction Stormwater Control Technical Requirements Manual (Seattle 2009)	Source Control Technical Requirements Manual (Seattle 2009)
2.52 - Diaper Netting 2.101 - Plywood Work Platform 2.162 - Turbidity Curtain	E.295 - Turbidity Curtain C1.55 - Airborne Debris Curtain	BMP 21 - Painting, Finishing, and Coating of Vehicles, Boats, Buildings, and Equipment

SDOT Manual Name	RCAT	RCAT Description
Street Maintenance Operations 5. Off Hours Emergency Report	144	Emergency Laborer Support - Asphalt

Description of Work

Inspection and emergency response relating to asphalt paving during nights, weekends, and holidays.

Objectives

Prevent sediment and pollutants of concern including petroleum hydrocarbons, toxic organic compounds, oils and greases, metals, suspended solids, and water with high pH from entering storm drain systems, sensitive areas, or water bodies.

Site Preparation

1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.
2. **Storm Drain Covers:** Install drain covers (see Figure 1) on any catch basin or storm drain inlets that are connected to the storm drain system and are located downslope or adjacent to the work area.
3. **Catch Basin Filter Socks:** Install catch basin filter socks in any structures that are **greater than 12 inches deep** (see Figure 2).
 - Place the appropriate size filter sock in the storm drain or catch basin.
 - Place the storm drain or catch basin grate on top of the filter sock to hold it in place.
 - Trim and remove filter sock material that extends beyond the grate.



Figure 1. Storm drain cover.



Figure 2. Catch basin filter sock.

BMP Maintenance During Site Work

1. **Catch Basin Filter Socks:** Clean or remove and replace filter sock when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).
2. **Asphalt Paving:**
 - Vacuum slurry and cuttings during the activity to prevent migration off site (see Figure 3) and do not leave slurry and cuttings on permanent concrete or asphalt paving.
 - Collect, treat, and properly dispose of runoff that comes in contact with diesel or coatings used in asphalt applications.
 - Continually monitor operations to determine whether cuttings or wastewater could enter the stormwater system. If observations indicate that a violation of water quality standards could occur, stop operations and immediately implement preventative measures such as berms, barriers, secondary containment, and vector trucks.
 - Wash off hand tools (e.g., screeds, shovels, rakes, floats, trowels) only into formed areas awaiting installation of asphalt concrete or use a temporary sump to collect and contain wash water.



Figure 3. Sawcutting and vacuuming.

3. *Optional BMPs:*

- Avoid the activity when rain is falling or expected, where feasible.
- Use a sandbag barrier or containment berm to direct stormwater run-on around the construction site (see Figure 4).



Figure 4. Containment berm example.

Site Cleanup

1. **Storm Drain Covers:** Remove drain covers from the catch basin or storm drain inlets.
2. **Catch Basin Filter Socks:** Remove the filter sock and dispose of the collected sediment in a suitable container to be hauled off site. Reuse the filter sock at another site if it remains in good condition (e.g., no rips, tears, or visible staining).
3. **Waste Disposal:**
 - Sweep or shovel loose aggregate chunks and dust collect the material for recycling or proper disposal at the end of each workday (see Figure 5).
 - Remove waste material from site and dispose of properly.
 - Dispose of collected slurry and cuttings in a manner that does not violate groundwater or surface water quality standards.



Figure 5. Manual sweeping.

References

Regional Road Maintenance Endangered Species Act Program Guidelines (Regional Road Maintenance Technical Working Group 2002)	Construction Stormwater Control Technical Requirements Manual (Seattle 2009)	Source Control Technical Requirements Manual (Seattle 2009)	Stormwater Management Manual for Western Washington (Ecology 2005)	Highway Runoff Manual (WSDOT 2008)
2.37 - Concrete Containment (2) 2.79 - Inlet Protection	C1.20 - Use of Chemicals During Construction C1.35 - Sawcutting and Paving Pollution Prevention C1.45 - Solid Waste Handling and Disposal E3.25 - Storm Drain Inlet Protection	BMP16 - Concrete Pouring, Concrete/Asphalt Cutting, and Asphalt Application	C151 - Concrete Handling C152 - Sawcutting and Surfacing Pollution Prevention	6A-2.33 - Concrete Handling

SDOT Manual Name	RCAT	RCAT Description
Street Maintenance Operations 5. Off Hours Emergency Report	145	Emergency Laborer Support - Concrete

Description of Work

Inspection and emergency response relating to concrete paving during nights, weekends, and holidays.

Objectives

Contain uncured concrete and prevent chemicals from leaving the work site, contain water from exposed aggregate work areas, and contain water from equipment cleanup.

Site Preparation

1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.
2. **Storm Drain Covers:** Install drain covers (see Figure 1) on any catch basin or storm drain inlets that are connected to the storm drain system and are located downslope or adjacent to the work area.
3. **Catch Basin Filter Socks:** Install catch basin filter socks in any structures that are **greater than 12 inches deep** (see Figure 2).
 - Place the appropriate size filter sock in the storm drain or catch basin.
 - Place the storm drain or catch basin grate on top of the filter sock to hold it in place.
 - Trim and remove filter sock material that extends beyond the grate.

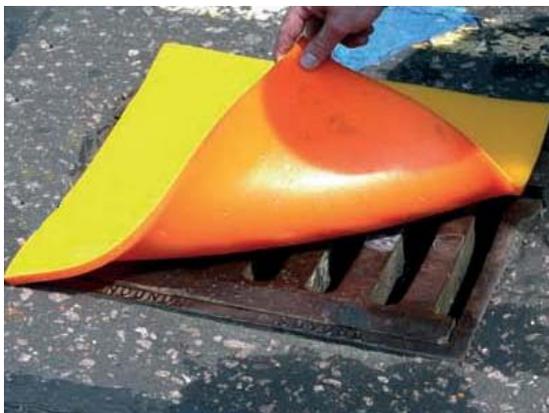


Figure 1. Storm drain cover.



Figure 2. Catch basin filter sock.

BMP Maintenance During Site Work

1. **Catch Basin Filter Socks:** Clean or remove and replace filter sock when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).
2. **Concrete Paving:**
 - Vacuum slurry and cuttings during the activity to prevent migration off site (see Figure 3) and do not leave slurry and cuttings on permanent concrete or asphalt paving.
 - Continually monitor operations to determine whether cuttings or wastewater could enter the stormwater system. If observations indicate that a violation of water quality standards could occur, stop operations and immediately implement preventative measures such as berms, barriers, secondary containment, and vector trucks.
 - Wash off hand tools (e.g., screeds, shovels, rakes, floats, trowels) only into formed areas awaiting installation of asphalt concrete or use a temporary sump to collect and contain wash water.
 - Perform exposed aggregate washing with a mechanism for containment and collection of the discarded concrete slurry and dispose of the slurry properly.
 - Clean concrete application and mixing equipment or concrete-delivery vehicles on the work site only in a designated area where the rinse water is controlled. Do not discharge to the sanitary sewer without prior approval from King County.



Figure 3. Sawcutting and vacuuming.

3. *Optional BMPs:*

- Avoid the activity when rain is falling or expected, where feasible.
- Use a sandbag barrier or containment berm to direct stormwater run-on around the construction site (see Figure 4).



Figure 4. Containment berm example.

Site Cleanup

1. **Storm Drain Covers:** Remove drain covers from the catch basin or storm drain inlets.
2. **Catch Basin Filter Socks:** Remove the filter sock and dispose of the collected sediment in a suitable container to be hauled off site. Reuse the filter sock at another site if it remains in good condition (e.g., no rips, tears, or visible staining).
3. **Waste Disposal:**
 - Sweep or shovel loose aggregate chunks and dust and collect for recycling or proper disposal at the end of each workday (see Figure 5).
 - Remove waste material from site and dispose of properly.
 - Remove material from temporary sump after cleanup is complete.
 - Dispose of collected slurry and cuttings in a manner that does not violate groundwater or surface water quality standards.
4. *Optional BMP:* Recycle broken concrete.



Figure 5. Manual sweeping.

References

Regional Road Maintenance Endangered Species Act Program Guidelines (Regional Road Maintenance Technical Working Group 2002)	Construction Stormwater Control Technical Requirements Manual (Seattle 2009)	Source Control Technical Requirements Manual (Seattle 2009)	Stormwater Management Manual for Western Washington (Ecology 2005)	Highway Runoff Manual (WSDOT 2008)
2.37 - Concrete Containment (2) 2.79 - Inlet Protection	C1.20 - Use of Chemicals During Construction C1.35 - Sawcutting and Paving Pollution Prevention C1.45 - Solid Waste Handling and Disposal E3.25 - Storm Drain Inlet Protection	BMP16 - Concrete Pouring, Concrete/Asphalt Cutting, and Asphalt Application	C151 - Concrete Handling C152 - Sawcutting and Surfacing Pollution Prevention	6A-2.33 - Concrete Handling