



# STORMWATER POLLUTION PREVENTION *For Sports Facilities*

pacific northwest  
POLLUTION PREVENTION  
resource center



## BEST MANAGEMENT PRACTICES (BMPs)

### Topic 2: Outdoor Seating Cleanup

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#### INTRODUCTION

After events in outdoor venues, exterior seating areas are often full of litter and debris, and spilled food and drinks. Planning ahead, by establishing good site management and fan/vendor engagement practices, can prevent pollution from entering stormwater and reduce the amount of clean-up required after the event. When clean-up is required, it is important to clean the seating areas using methods that minimize the amount and type of pollutants that reach site storm drains and sewers. Untreated wash water that reaches the stormwater system flows directly to local waterways affecting water quality and aquatic life.

#### MINIMIZE STORMWATER POLLUTION

##### *Event Cleanup BMPs for Outdoor Venues*

##### **General Site**

- Ensure wash water effluent directs to the permitted or site-approved collection point. The approved location could be a stormwater sewer, stormwater vault or treatment site, sanitary sewer, or to a landscaped area designed to capture and filter the water.
- Ensure compliance with jurisdiction's requirements for permits, fees for discharge, or standards for retention and/or treatment.

- Use screening and filtration, with catch basin inserts, at any catch basins for wash water to catch debris, oil and/or sediment<sup>1</sup>. Simple filtration inserts, customized to the catch basin, are available, such as fabric or mesh screens. More complex systems with filtration media are also available.
- Do not use zinc-based moss removal products or de-icers in seating bowl areas. Reduce changes to the wash water's pH by minimizing use of alkaline or acidic cleaners (depending on the pH) and/or provide a temporary holding vault for neutralization. A holding vault may also be useful in allowing sediment settling and oil separation prior to releasing water to the storm sewer<sup>2</sup>. (See *Sports Authority Field insert below*).



*Fabric storm drain insert*

At **Sports Authority Field** at Mile High, following each event, the entire stadium seating bowl that was used as part of the event is pressure washed and directed to their Hydro-Gate vault. Flows from the Hydro-Gate Vault are redirected to discharge to the water quality separator vault that is effective at minimizing Total Suspended Solids (TSS), oil and grease effluent concentrations, and other pollutants, prior to release to the local river.

### Fan and Vendor Engagements

- Ensure fans have convenient access to well-labeled collection bins inside and outside the venue.
- During every event, use video or audio announcements to remind fans where to put recyclables, compostables (if applicable), and trash. Ask them to put all remaining liquids into the garbage or pour down the sink as they head out of the venue rather than dumping on concrete, or leaving in the seating area and grounds.
- Use the team mascot to help deliver the message to fans about preventing litter and putting waste in the correct disposal locations within the facility and when fans get to their cars or buses<sup>3</sup>.
- Train concession vendors in stormwater pollution minimization practices, such as: enclosed transfer of materials into the facility; no littering; no dumping of liquids or other concession wastes on the property; no idling during deliveries; and fleet maintenance to prevent vehicle leaks on the property.



### Post-Event

- Clean exterior areas as soon as possible after events to prevent the possibility of precipitation carrying litter and pollutants to storm drains.

- Prior to washing seating bowls, walkways, and other exterior areas, handpick larger litter items into litter bags using small, rolling dumpsters or collection bags.
- Dry clean with brooms, squeegees, blowers, power scrubbers, or other devices to the greatest extent possible, prior to using water.
- If blowers are used, blow material away from storm drains and into a central spot for pick-up prior to any washing.
- Avoid water washing during or right after rain events when sewer capacities are at their maximum.
- When flushing or pressure washing, use at-temperature water and employ high-pressure, low-volume washers, and nozzles.
- Avoid graffiti removal and other chemical use/cleaning activities during wet weather and use less toxic graffiti removal agents (see EPA's list of [DfE labeled products](#) for suggestions)<sup>4</sup>.

## REFERENCES

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1. [Stormwater Management Manual for Western Washington Volume IV, Source Control BMPs](#). 2012. Washington State Department of Ecology.
2. [Stormwater Management Plan Invesco Field at Mile High](#). 2004. Landmark Environmental Inc.
3. [The Canucks' Greening Story: Motivations, Challenges and Lessons from the Field](#). 2013. Pacific Northwest Pollution Prevention Resource Center.
4. [Labeled Products and our Partners](#). 2014. Design for the Environment. United States Environmental Protection Agency.