Benchmark and Effluent Monitoring Location Diagrams

wq-strm 3-29 April 2015

The Industrial Stormwater Multi-Sector General Permit requires all sectors to conduct benchmark monitoring. Benchmark monitoring results confirm whether stormwater management practices are working and whether water quality standards are being maintained. A few permittees are required to conduct effluent monitoring and meet numeric effluent limits.

This guidance document is provided to help permittees select benchmark and effluent monitoring locations.

The following diagrams offer five likely scenarios for possible benchmark and effluent monitoring locations. Though specific sectors are used in these examples, the scenarios could be applicable to all sectors.

Minnesota Pollution Control Agency

Industrial Stormwater Information: www.pca.state.mn.us/industrialstormwater

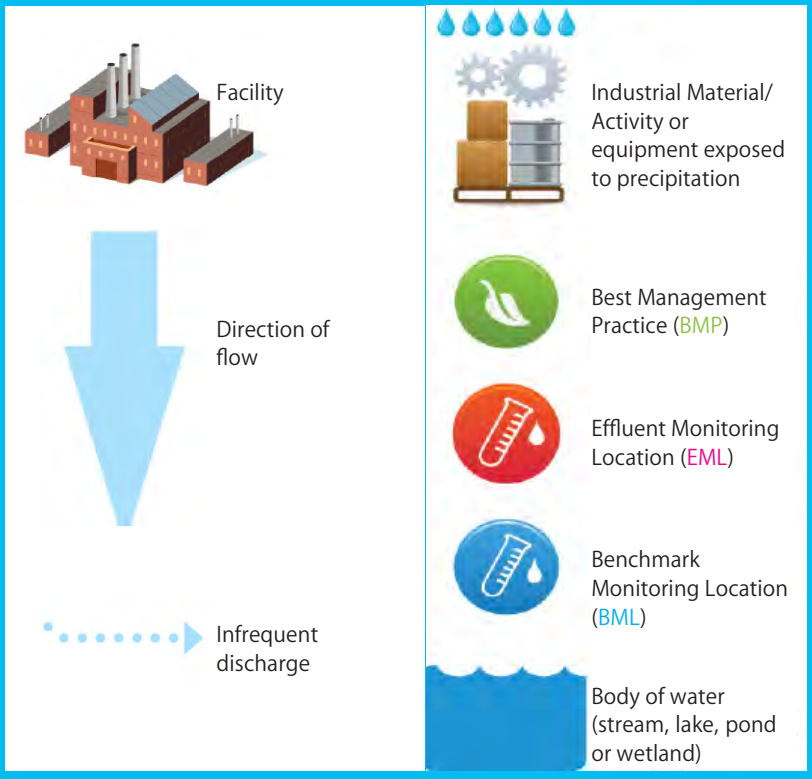
Also see the Steps to Compliance for more information.

Industrial Stormwater Hotline
(651) 757-2119 or (800) 657-3804
(non metro only)

MPCA
520 Lafayette Road North
St. Paul, MN 55155-4194

www.pca.state.mn.us
(651) 296-6300 (800) 657-3864
TTY (651) 282-5332 or (800) 657-3864

Available in alternative formats



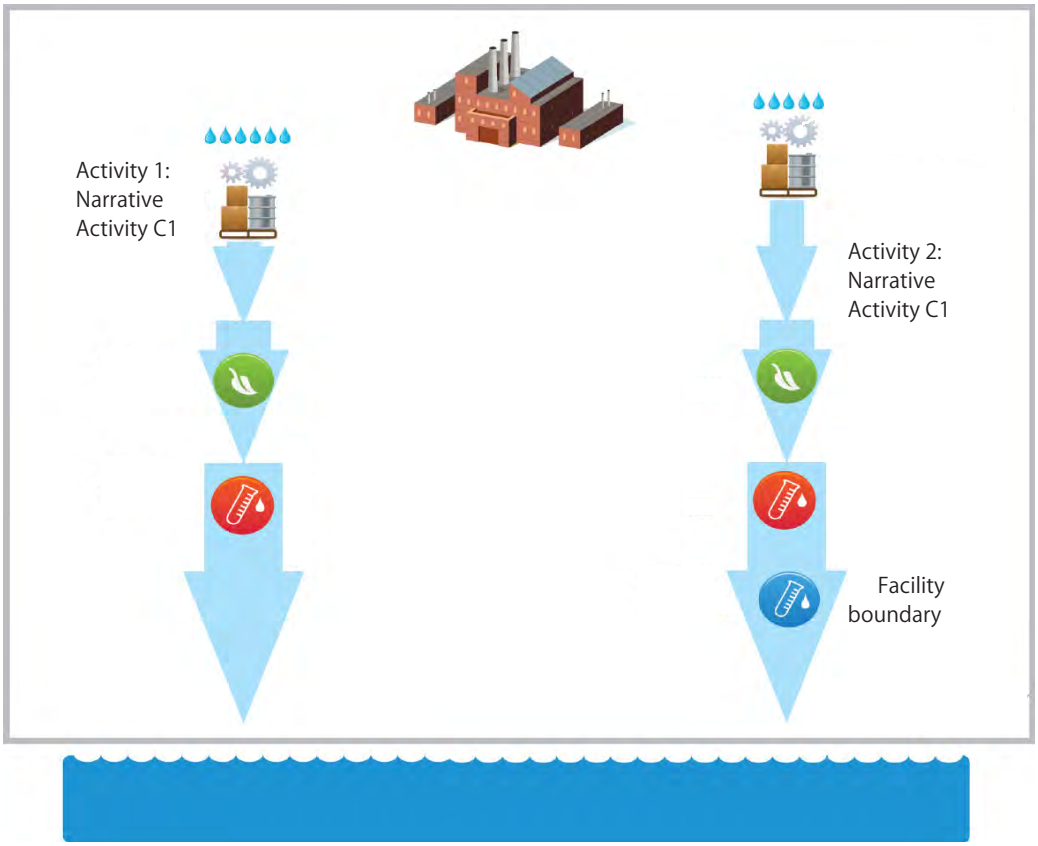


Diagram 1.

Activities 1 and 2 have the same industrial materials, activities and BMPs and stormwater discharges to the same body of water. Each discharge needs to be monitored for its effluent limit, but only one BML is needed. If the discharges are going to separate types of surface waters, then 2 BMLs are required.

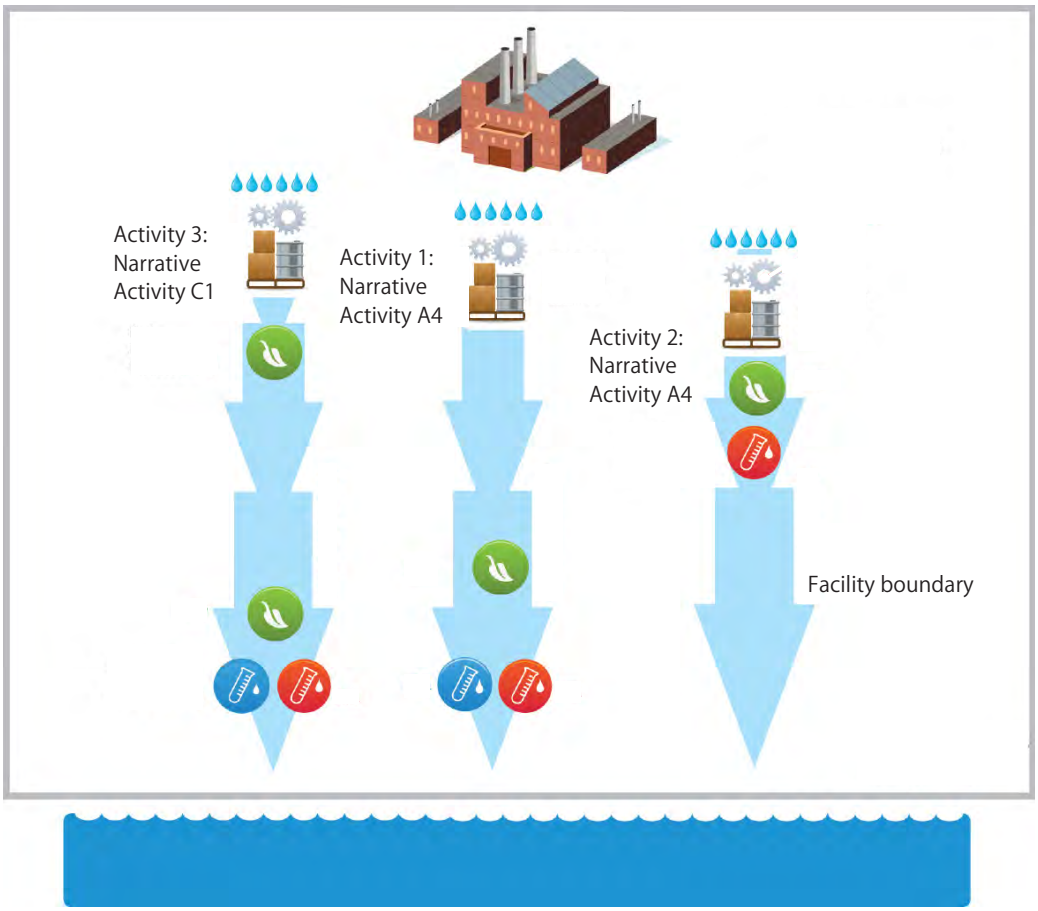


Diagram 2.

In this example, the materials, activities, BMPs, and receiving water are the same for Activities 1 and 2, and the same requirements apply as in Diagram 1. Activity 3 is different and must have its own BMPs, EMLs, and BMLs.

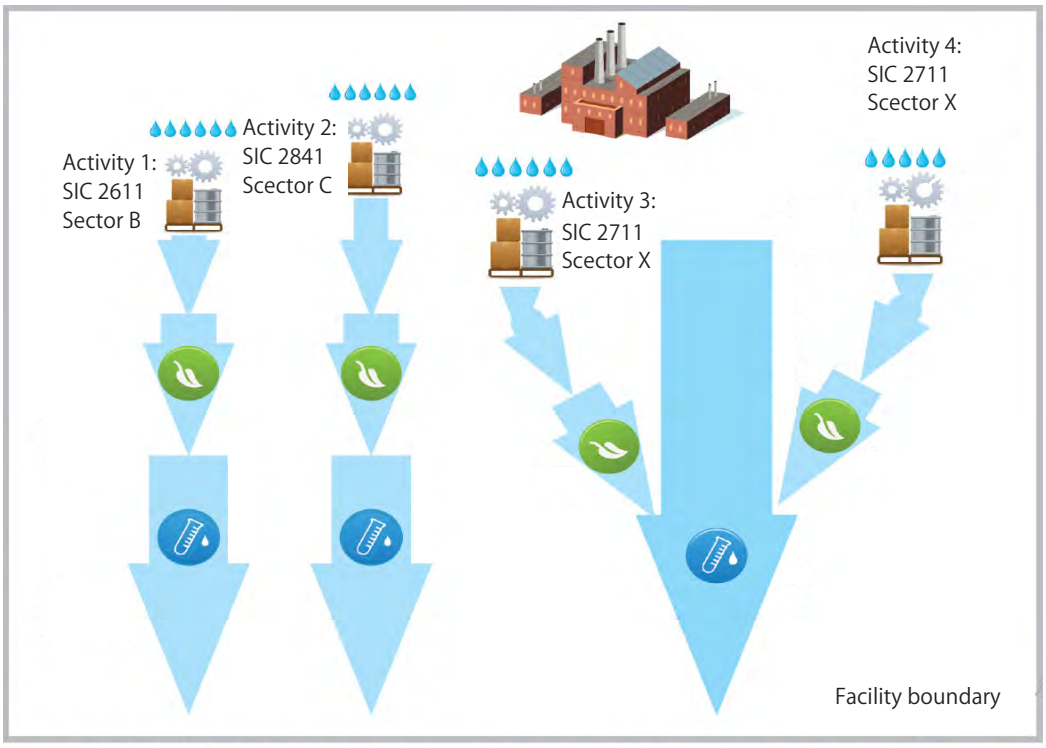


Diagram 3.

The materials / activities for Activities 1 and 2 are different so each discharge needs its own BML. For Activities 3 and 4, a facility could choose to have only one BML and sample for all of the benchmark parameters down gradient of both BMPs. Alternatively, the facility could have BMPs further "upstream" and choose BMLs immediately downgradient from each individual BMP.

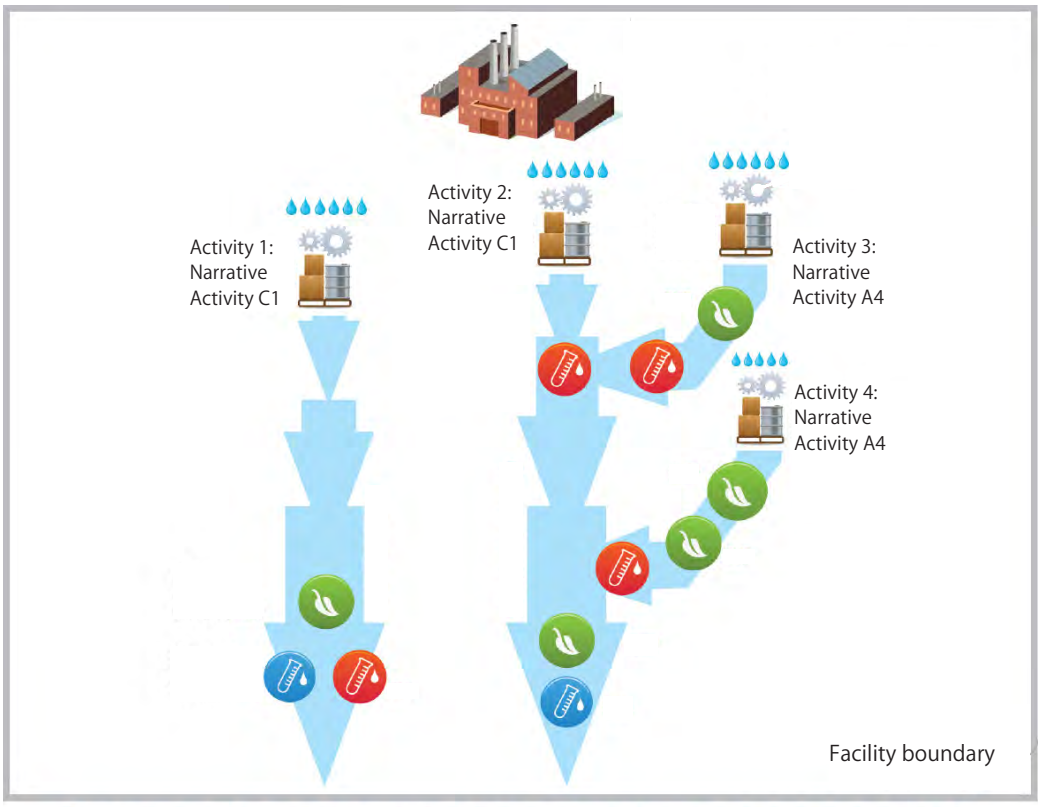


Diagram 4.

The materials /activities for Activities 1 and 2 are different. Thus, Activity 1 needs its own BML. In this example, one BML can represent Activities 2, 3 and 4. Effluent monitoring needs to occur downgradient of the last BMP before co-mingling Activities 2, 3 and 4; therefore, 4 EMLs are required.

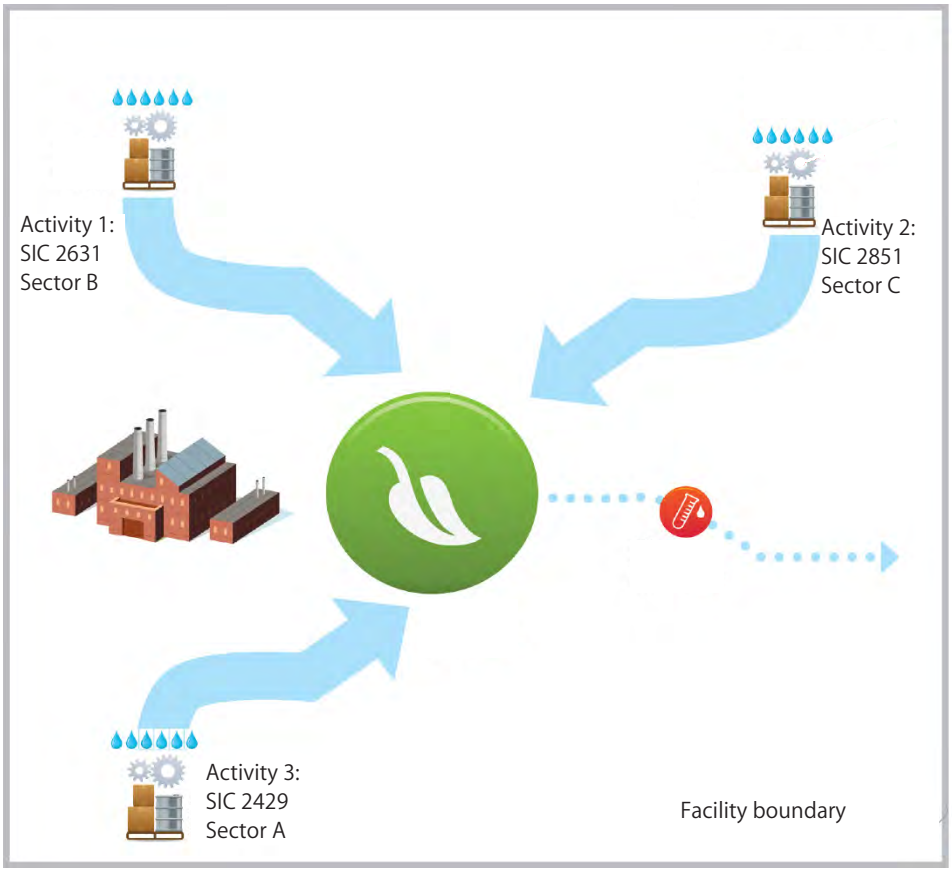


Diagram 5.

The BMP in this diagram is an infiltration system but is not designed by Appendix C requirements. Benchmark monitoring is not required for all pollutants in these three sub-sectors before the discharge goes to the infiltration device. Only discharges from the infiltration system would require sampling. Sampling would not be required if the infiltration device did not have a discharge, but permittees would have to provide a "no flow" explanation on the sampling form.

Best Management Practices or BMPs

Pollutants from industrial activities or materials that are exposed to precipitation can be carried by stormwater and contaminate surface and ground waters. BMPs are stormwater management practices to help prevent, minimize, and mitigate the runoff and infiltration of contaminated stormwater. They include, but are not limited to, operations and maintenance procedures, and structural and nonstructural controls.

Benchmark Monitoring Location

The benchmark monitoring location shall be in a location that:

a. Is below the most downgradient BMP from the source of industrial activity of significant materials, but prior to discharging from the permittee's operational control.

b. Minimizes or eliminates sampling of stormwater from off-site sources (run-on).

c. Yields a sample that best represents the contribution of pollutants the permittee is required to monitor for that discharge from an area of industrial activities, processes, and significant materials exposed to stormwater. If the permittee has identified multiple, but separate, areas of drainage, activities, exposure, and BMPs that discharge substantially similar pollutants, the permittee may choose one benchmark monitoring location that is most representative and best allows for obtaining a sample.

Effluent Monitoring

Fourteen sub-sectors do not have a SIC code and are instead described in a narrative fashion. All of these 14 narrative sub-sectors have effluent monitoring requirements. See Part VII of the permit for the list of the specific sub-sectors.

Effluent Monitoring Location

The effluent monitoring location shall be in a location that:

a. Is immediately below the most downgradient BMP from the specific industrial activity that has a numeric effluent limit, but prior to where the discharge co-mingles with stormwater from other sources.

b. Yields a sample that represents the contribution of the pollutants the permittee is required to monitor for that discharge from an area of industrial activities or materials.