Industrial stormwater benchmark and effluent monitoring location diagrams

The Minnesota Pollution Control Agency (MPCA) Industrial Stormwater Multi-Sector General Permit (permit) requires all regulated industrial sectors to collect monitoring samples. Monitoring sample results indicate whether stormwater control measures are effectively minimizing pollutants in stormwater discharges to meet applicable federal and state water quality standards. These water quality standards are described as numeric effluent monitoring limits and benchmark monitoring values in the permit.

This guidance document is provided to help facilities regulated by the permit select benchmark monitoring and effluent monitoring locations.

The following diagrams offer three likely scenarios for selecting benchmark monitoring and effluent monitoring locations. Though specific standard industrial classification (SIC) codes and narrative activities are used in these examples, the scenarios could be applicable to any sector. If you do not see an example in this guidance document that represents your facility's proposed or existing benchmark monitoring or effluent monitoring locations, contact the Industrial Stormwater (ISW) program at iswprogram.pca@state.mn.us for further assistance.

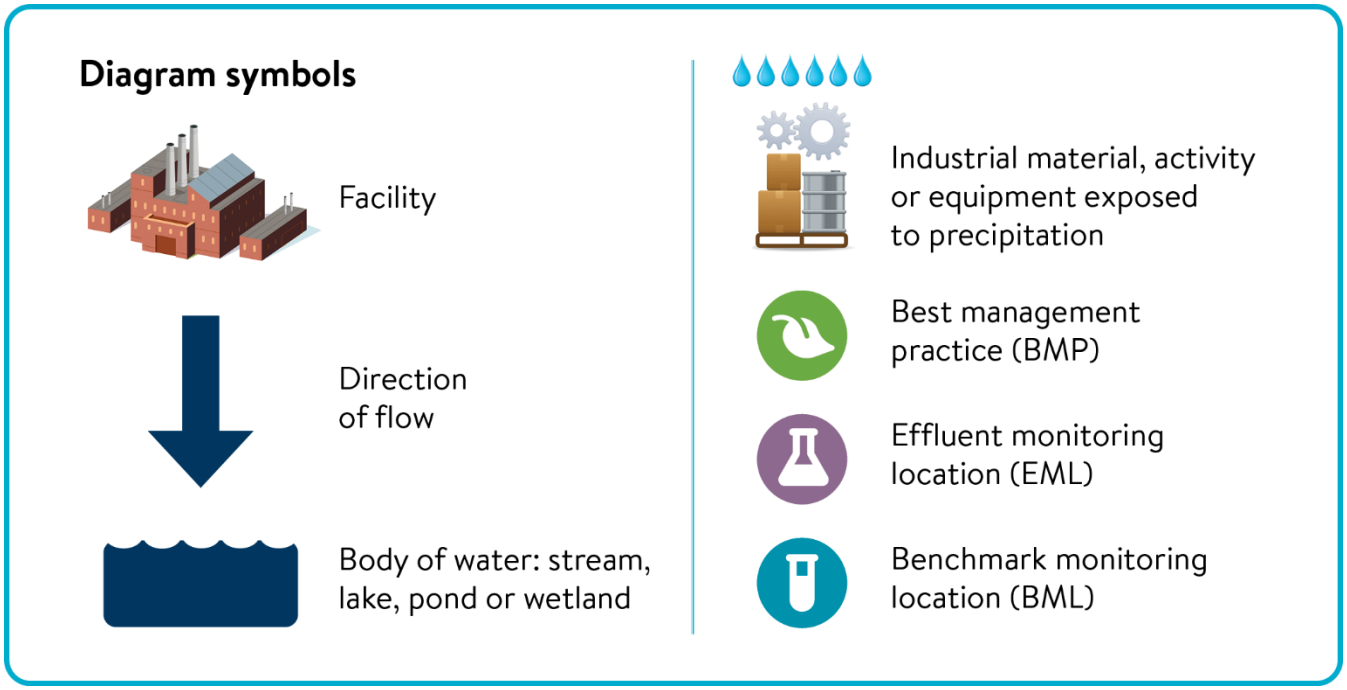


Diagram 1

Activities 1 and 2 (Narrative Activity C1: Runoff from phosphate fertilizer manufacturing facilities that comes into contact with raw materials/finished products/by-products/waste products) have the same exposed industrial materials, activities, and best management practices (BMPs), and stormwater discharges to the same body of water. Each discharge needs to be monitored for its effluent limit, but only one benchmark monitoring location (BML) is needed. If the discharges did not have a substantially similar receiving water, then multiple unique BMLs would be needed.

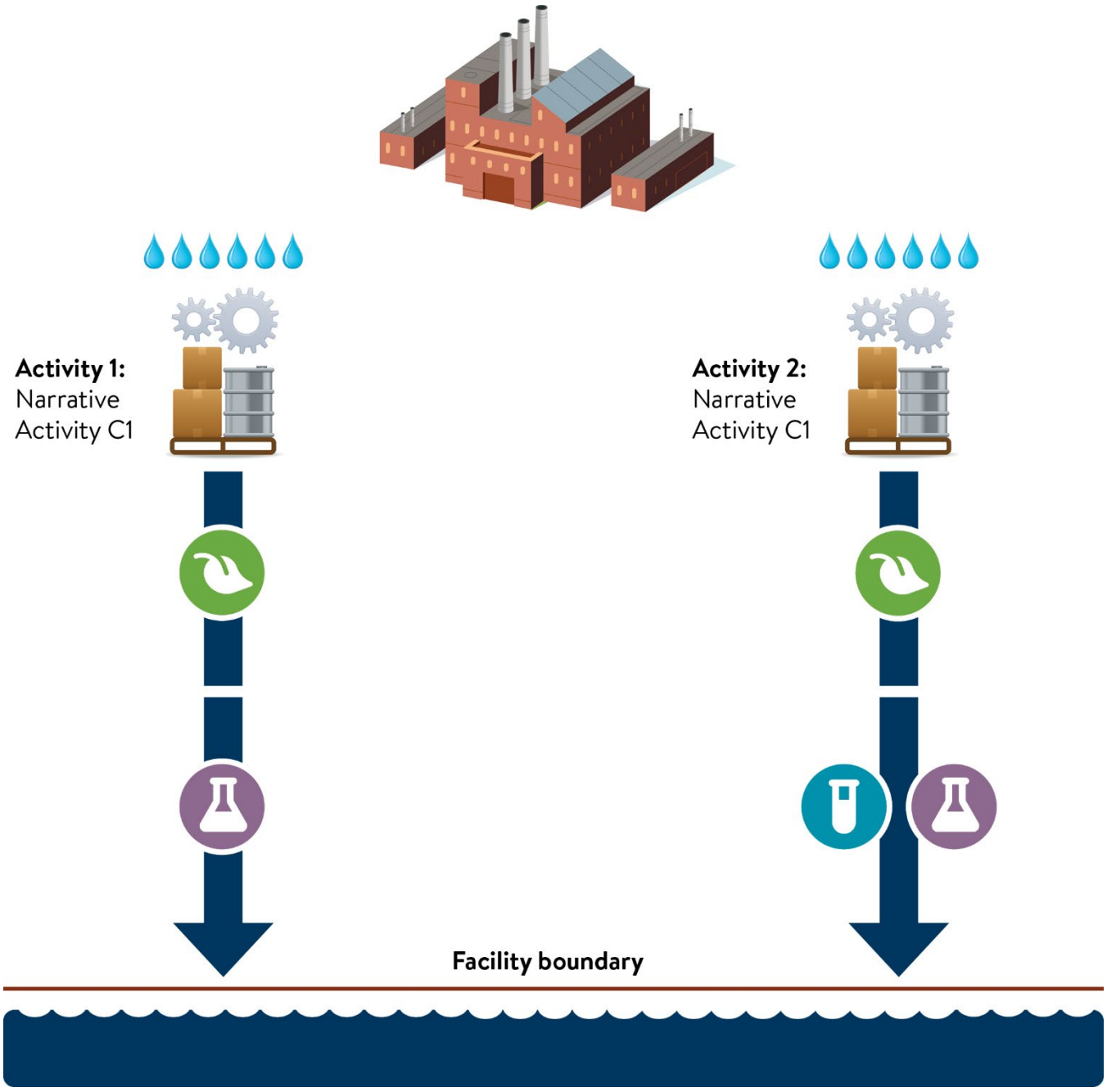


Diagram 2

In this example, the exposed industrial materials, activities, BMPs, and receiving body of water are all the same for Activities 1 and 2 (Narrative Activity A4: Discharges from Wet Decking Storage Areas (Timber Products)), and the same requirements apply as in Diagram 1. Activity 3 (Narrative Activity C1: Runoff from phosphate fertilizer manufacturing facilities that comes into contact with raw materials/finished products/by-products/waste products) has exposed industrial materials and activities not substantially similar to Activities 1 and 2, so it must have its own BML and effluent monitoring location (EML).

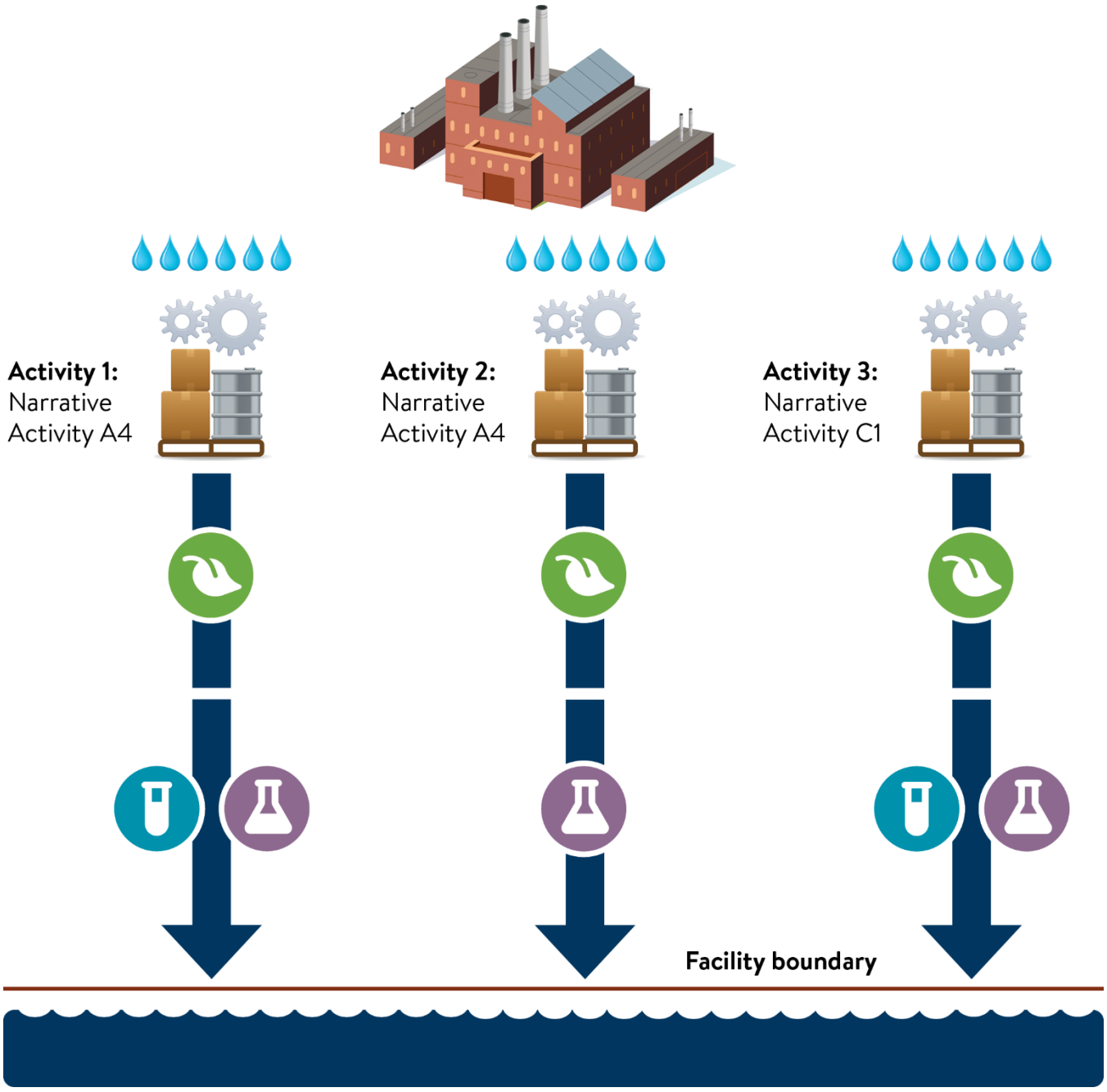
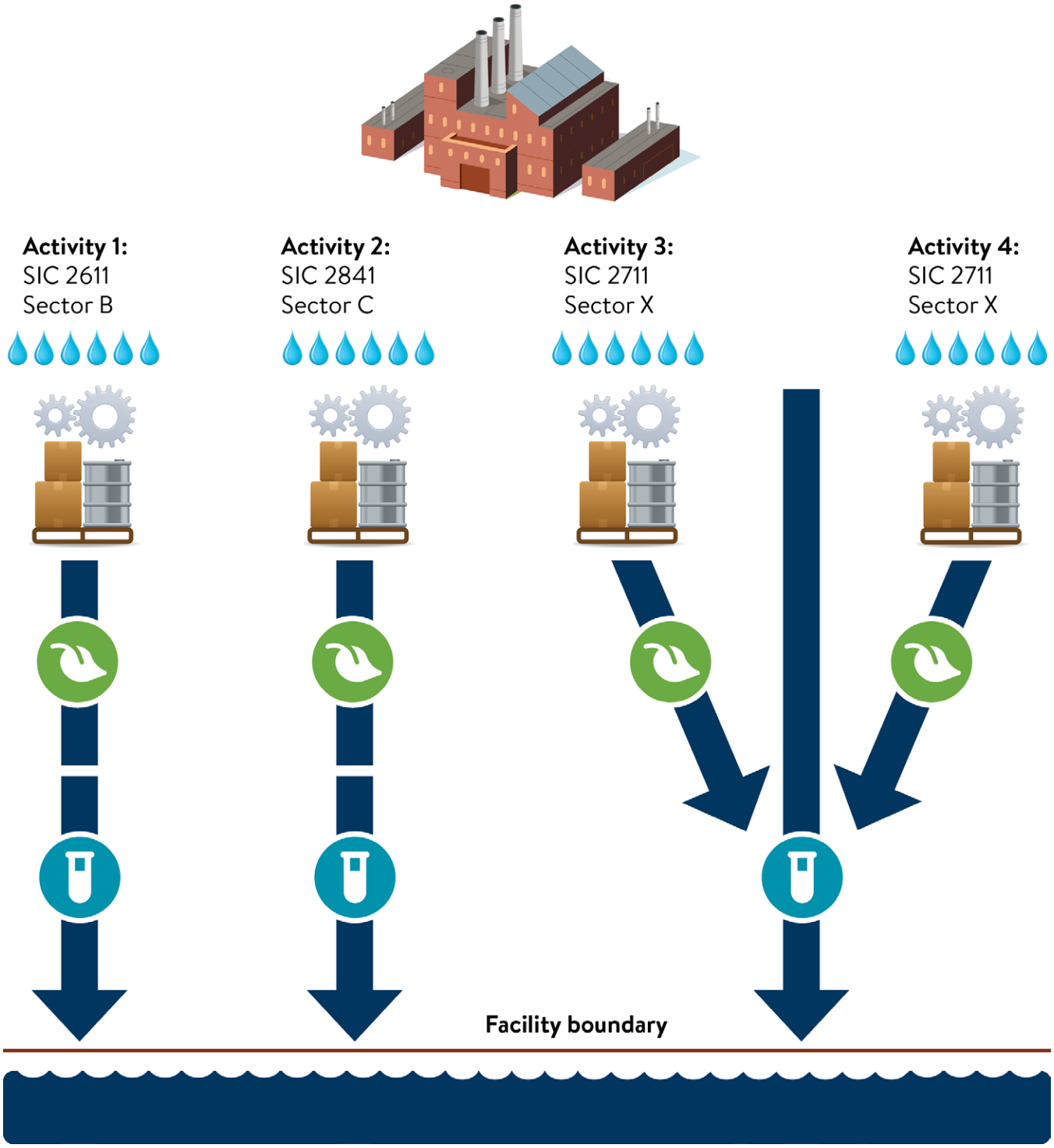


Diagram 3

The SIC codes for Activities 1 and 2 (SIC 2611 Pulp Mills (Sector B) and SIC 2841 Soap and Other Detergents, Except Specialty Cleaners (Sector C)) indicate exposed industrial materials and activities not substantially similar to one another, so each discharge needs its own BML. For Activities 3 and 4 (SIC 2711 Newspapers: Publishing, or Publishing and Printing (Sector X)), which are substantially similar in terms of exposed industrial materials, activities, BMPs, and receiving water bodies, a facility could choose to have one BML for both activities immediately down gradient of each activity's BMPs before commingling with other sources of stormwater discharge. Alternatively, the facility could choose to have one BML for stormwater discharge from Activity 3 and one BML for stormwater discharge from Activity 4.



Stormwater control measures

Pollutants from industrial activities or materials that are exposed to precipitation can be carried by stormwater and contaminate surface and ground waters. Stormwater control measures are BMPs required by the permit to help prevent, minimize, and mitigate the runoff and infiltration of contaminated stormwater. They include, but are not limited to, operations and maintenance procedures, structural stormwater controls (e.g., treatment systems), and nonstructural stormwater controls (e.g., street sweeping).

Benchmark monitoring location

The benchmark monitoring location shall be in a location that:

a. Is below the most down gradient BMP from the source of industrial activity and/or 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 identifies multiple but separate industrial stormwater discharges, and each area of discharge is substantially similar in terms of exposure, BMPs, pollutants, and surface water receiving runoff, the permittee may choose one benchmark monitoring location that is most representative and best allows for obtaining a sample. If the surface water receiving runoff is not substantially similar, the permittee must designate multiple unique benchmark monitoring location(s).

Effluent monitoring

If applicable, permittees shall comply with the effluent limitations required in the Sector-Specific Requirements section of the industrial stormwater general permit. The permittee shall identify and monitor all effluent monitoring locations at the facility where narrative industrial activity with an effluent limit occurs. Appendix B of the permit lists the parameters with corresponding effluent limits for specific sectors. This Effluent Limit Requirements section of the permit is not applicable to permittees with no effluent limit requirements listed for their corresponding sector(s).

Effluent monitoring location

The effluent monitoring location shall be in a location that:

a. Is after the final down-gradient 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; and,

b. Yields a sample that represents the contribution of the pollutants the permittee is required to monitor for in accordance with the Sector-Specific Requirements section of this permit, and that receives discharge from an area of industrial activities, processes, and significant materials exposed to stormwater that has a numeric effluent limit.

Contact the ISW program at iswprogram.pca@state.mn.us for further questions or assistance with this topic.