



Sector A: Timber products

Industrial stormwater pollution prevention

Sector A includes facilities described by the following Standard Industrial Classification (SIC) codes: 2411, 2421, 2426, 2429, 2431, 2435, 2436, 2439, 2441, 2448, 2449, 2451, 2452, 2491, 2493, and 2499. Sector A also includes a narrative activity: facilities with discharges from wet decking storage areas.

Materials and activities at Sector A facilities that can impact stormwater include wood protection or treatment chemicals, milling, log handling and storage, vehicle fueling and maintenance, and equipment maintenance, cleaning and storage.

Pollution prevention practices

Minnesota's industrial stormwater permit requires a written Stormwater Pollution Prevention Plan (SWPPP). Use the SWPPP to assess potential sources of pollutants at your facility and then identify practices that will minimize these pollutants in runoff from the site. This fact sheet lists pollution prevention (P2) practices that can be incorporated into your facility's SWPPP.

Keep in mind that P2 is best achieved by qualifying for the No Exposure exclusion. No Exposure means that rain, snow, and runoff do not contact pollutant-containing materials or activities. Your facility can apply for the No Exposure certification as soon as you qualify, even if you already have the full permit. For more information visit the Minnesota Pollution Control Agency's (MPCA) No Exposure webpage at <http://www.pca.state.mn.us/noexposure>.

General strategies

- Keep materials and activities indoors as much as possible. Confine outdoor materials and activities to designated areas that are covered, have an impervious concrete surface, or have a system (such as berms or dikes) to prevent run-on of stormwater and runoff of pollutants.
- Regularly clean up areas used for handling, processing and storage using dry methods such as raking and scraping log yards, sweeping and squeegee and dust pan.
- Provide secondary containment for materials stored indoors and outdoors. Ensure surfaces of secondary containment areas are properly sized and adequately sealed.
- Use drip pans and pads for rail transfer and under conveyance equipment, leaking equipment or tanks; empty and clean drip pans, collecting material for reuse where possible.

Log, lumber and wood product storage areas

- Prevent run-on. If necessary, elevate treated wood products to prevent contact with run-on.
- Line storage areas with crushed rock or gravel to promote infiltration and provide sediment and erosion control.
- Surround log or lumber storage yards with shrub plantings, trees, grassy areas, or gravel to provide a buffer that removes sediment from stormwater runoff.
- Where buffers are too narrow to filter stormwater runoff, use berms or grading to direct water away from water courses and toward treatment structures such as vegetated filter strips, infiltration basins or grass swales.

- Use solid waste containers such as dumpsters or garbage cans that have permanent covers, are durable, corrosion resistant, non-absorbent and non-leaking with drain holes plugged.

Residue storage areas

- Limit slopes of storage areas to minimize the speed of runoff. Keep slopes stabilized to reduce erosion.
- Place materials on raised pads of compacted earth, clay, shale, or stone.
- Consolidate piles to minimize the surface area exposed to precipitation.
- Avoid contaminating residues with oil, solvents, chemically-treated wood, or trash.
- Limit storage time of treated materials to prevent generating leachates.

Wood surface protection and preserving

- Extend drip time in process areas before moving products to storage areas.
- Dedicate equipment used for treatment activities to that specific purpose in order to prevent treatment chemicals being tracked to other areas.
- Pave areas used by equipment that comes in contact with treatment chemicals.

Shipping and receiving

- Minimize the handling of sawdust and paper dust on windy or wet days.
- Cover or plug storm drains during loading and unloading activities.
- Provide overhangs or door skirts to enclose trailer ends at loading docks.
- Inspect containers for leaks or damage before loading or unloading.
- Use fluid level indicators on tanks to prevent overfilling.
- For rail transfer, install a drip pan within the rails to collect spillage from the tank.
- Where liquid or powdered materials are transferred in bulk, make sure hose connection points are inside containment areas or drip pans are used.
- Provide dust control if needed by sweeping and/or by applying water or other materials that will not impact surface or groundwater.
- When unloading fuel or other liquids, have a spill kit and trained employee on hand.

Material storage

- Store chemicals near where they will be used to minimize the chance of spilling during handling.
- Maintain an inventory of fluid levels to identify leakage.
- Clearly label all stored materials with the name of the chemical, expiration date, handling instructions and health or environmental hazards.
- Provide secondary containment for storage tanks and drums.
- Maintain good integrity of all storage tanks and containers and all pipes and tubes transporting materials.

Manufacturing areas

- Keep floors clean and dry to minimize what is tracked outdoors.
- Use inventory control to reduce waste, including tracking the date received and expiration dates.
- Avoid buildup of dust or other deposits on exhaust vents and roof stacks. Install particulate collection equipment if needed.
- Make sure filters are in good condition and not torn or otherwise allowing chemicals or dust to escape.

- Contain and frequently collect dust and other wastes as soon as they are generated.
- Clean equipment regularly to remove accumulated dust and residue.
- Remove obsolete equipment before it has a chance to leak or rust. Recycle unused equipment rather than stockpiling it.

Chemicals and wash water

- Use tight-sealing lids on all fluid containers.
- Use mechanical aids such as pumps, spigots and funnels when transferring fluids.
- Organize storage for easy access in case of a leak or spill.
- Use monitoring equipment to detect leaks and overflows.
- Use tarps, drip pans, and other spill collection devices to prevent and contain spills; manage waste properly.
- Be prepared for immediate spill cleanup.
- Do not pour liquids (including wash water) into floor drains, sinks, outdoor storm drain inlets or other storm drain or sewer connections.

Liquid fuel storage areas and above ground tanks

- Designate a fueling area.
- Use overflow protection.
- Discourage topping off.
- Use double-walled above ground tanks.
- Provide cover over secondary containment wherever possible in order to minimize rainwater collection.
- Keep liquid transfer nozzles and hoses in a secondary containment area or use drip pans.

Inspections

- Inspect equipment maintenance areas to identify problems.
- Inspect storage tanks and piping systems (pipes, pumps, flanges, couplings hoses and valves) for failures or leaks and perform preventive maintenance.
- Inspect pallets for breakage, dirt or oil.
- Inspect loading and unloading areas for material spills and engine fluid drips.
- Inspect grounds to ensure that treatment chemicals from processing and treated wood storage areas are not deposited on unprotected soils.
- Inspect tanks for sound foundations, connections, coatings, welded joints, and piping systems.
- Inventory and inspect fluid levels to identify and repair leaks.
- Inspect treatment chemical loading and unloading areas during and after activities to immediately identify and clean up spills.

Employee training

- Train employees in spill prevention, control, cleanup and materials management techniques.
- Train employees on proper chemical use, storage, cleanup and waste reuse, recycling or disposal.
- Train employees on equipment operation (for example, how to minimize overspray when using spray equipment).
- Train employees on good housekeeping measures including all SWPPP components.

Cold climate considerations

Minnesota experiences challenging climatic conditions that require thoughtful P2 design and operation. Cold weather, snow and ice result in extended storage of pollutants in the snowpack. The following P2 activities can help minimize the impact of cold climate on stormwater:

- Use high efficiency cyclones that are less prone to clogging. Snow crystals are often sucked into dust collectors resulting in increased 'dust' volumes. Baghouses can become clogged with packed snow.
- Adapt cleaning systems where necessary. Biomass can have contaminants that would normally be removed by screening but in winter the dirt and grit can freeze to wood chip particles.
- Rake, collect, and remove yard debris before snowfall to avoid collecting debris when plowing.
- Sweep sand, salt, and spilled materials from paved surfaces throughout the winter and before snow melts.
- Store materials away from areas where it could get mixed with snow and moved around when the area is plowed. Keep materials out of accumulated or dumped snow.
- Cover salt storage areas to help minimize contact with stormwater.
- Use judicious amounts of de-icing and anti-skid chemicals and road salt.
- Keep plowed snow out of retention ponds. This ensures the treatment capacity of the pond is available during snowmelt or rain on frozen ground.

Stormwater treatment best management practices

Stormwater treatment Best Management Practices (BMPs) are engineered structures that treat stormwater runoff or reduce the stormwater runoff rate, volume and velocity. In combination with P2 practices, stormwater treatment BMPs such as retention ponds act as a second line of defense against polluting downstream waterbodies. Treatment BMPs should be used down-gradient of areas where P2 activities have been fully implemented. Specific guidance on stormwater treatment BMPs is in the *Minnesota Stormwater Manual* and the *BMP Guidebook*, which are linked in the Resources section at the end of this fact sheet.

Wood preserving facilities (SIC code 2491) are prohibited from expanding or building new stormwater infiltration systems such as infiltration trenches, filter strips or rain gardens. However, they may continue to use infiltration systems that existed before April 2010. Retention ponds must be built with a liner that meets the requirements listed in the permit. All other Sector A facilities may use infiltration systems and retention ponds for stormwater management. See Part VII of the permit for details.

Groundwater pollution potential

Groundwater contamination is of greatest concern where there is a high water table and in karst regions. A water table that is close to the surface can allow pollutants to enter the groundwater system quickly, which does not allow time for pollutant levels to be reduced by the soil. Karst is common in southeastern Minnesota and is largely shaped by the dissolving action of water on limestone. Over time, this creates features such as sinkholes, disappearing streams, complex underground drainage systems and caves. Water and pollutants can flow rapidly through these features to wells and streams.

Extra precautions to prevent groundwater contamination in these areas include P2 measures such as more frequent inspections of leaks from equipment and chemical storage areas, regular and thorough inspections of underground storage tanks and delivery lines, and physical barriers between all industrial activities and permeable areas. In addition, stormwater treatment BMPs used downstream of P2 practices should be designed with sensitivity to local conditions.

Resources

BMP Guidebook (fact sheet #wq-strm3-26) is available on the MPCA website at <http://www.pca.state.mn.us/index.php/view-document.html?gid=10557>.

EPA industrial stormwater fact sheet *Sector A: Timber Products* is available on the EPA website at http://www.epa.gov/npdes/pubs/sector_a_timber.pdf

Industrial stormwater webpages on the MPCA website at <http://www.pca.state.mn.us/industrialstormwater>.

Industrial stormwater permit (document #wq-strm3-67a) is available on the MPCA website at <http://www.pca.state.mn.us/index.php/view-document.html?gid=20797>.

Low Impact Development for Businesses webpage on the MPCA website at <http://www.pca.state.mn.us/veiz7d0>.

Manufacturers: Reduce your exposure to stormwater regulations (fact sheet #wq-strm3-15) is available on the MPCA website at <http://www.pca.state.mn.us/index.php/view-document.html?gid=7720>.

Minnesota Stormwater Manual is available on the MPCA website at <http://stormwater.pca.state.mn.us>.

No Exposure: Qualifying for and keeping the exclusion (fact sheet #wq-strm3-13) is available on the MPCA website at <http://www.pca.state.mn.us/publications/wq-strm3-13.pdf>.

More information

For more information e-mail the MPCA's industrial stormwater program at iswprogram.pca@state.mn.us or call the stormwater hotline at 651-757-2119 or 800-657-3804 (non-metro only).