



OUTREACH AND TRAINING

Dallas Grossman, Environmental Quality





NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY

OUR VISION is a sustainable, high quality environment for current and future generations.

OUR MISSION is to conserve and protect the quality of North Dakota's air, land, and water resources following science and the law.

NDDoH TO NDDEQ

In 2019, the Environmental Health Section of the North Dakota Department of Health became the North Dakota Department of Environmental Quality

NDDoH TO NDDEQ

Over time, all information material needs to be transitioned from NDDoH to NDDEQ

Websites

Fact sheets

Logos

Incorporate branding

BRANDING IN ACTION



NORTH DAKOTA
DEPARTMENT OF HEALTH

Sediment & Erosion Control for New Homeowners

Land development changes the natural landscape and drainage patterns in watersheds throughout North Dakota. Activities such as new home construction typically involve clearing the vegetation that once slowed runoff and allowed rain and snowmelt to soak into the soil. New home construction may also involve grading to direct storm water from the home lot to a storm sewer or drainage ditch. Storm water runoff is not directed to a wastewater treatment plant, but runs directly into rivers, streams, lakes and wetlands. Although the runoff from one lot may not be enough to cause pollution problems, runoff from hundreds of sites throughout a watershed is a different story.



SEDIMENT – Problems and Solutions

Lots with bare soil are highly susceptible to water erosion. As the rainfall and snowmelt runoff travels over the bare soil, it picks up sediment that may be carried to local water bodies. Some sediment, like clay, may take hours to settle out of storm water runoff. Suspended in the water, sediment can reduce the amount of sunlight that reaches aquatic plants and may damage the gills of fish. When sediment settles out, it fills in the spaces where fish lay their eggs and suffocates the eggs and aquatic insect larvae that inhabit the bottom of the waterbody. Sediment-laden water can also interfere with recreation, make the waterbody unappealing and cause problems for downstream water treatment plants treating the water.

The owners of newly constructed homes are responsible for controlling the amount of sediment and other pollutants leaving their properties. During home construction, the contractor(s) may have used one or more of the following erosion and sediment control measures:

- **Sediment logs or silt fences** pond and filter storm water, allowing sediment to settle out.
- **Inlet protection devices** prevent sediment from entering the storm sewer by ponding water.
- **Rain gutter extensions and energy dissipaters** reduce the force of the flow from the downspout. These devices should be allowed to drain to a densely vegetated area such as a lawn or garden. They may also drain to the storm sewer system, if allowed by local regulations.
- **Detention/retention areas** pond water to allow sediment to settle out, usually to a sediment trap.

All erosion and sediment control structures should be installed so they will not cause property damage from flooding. Periodic cleaning and maintenance is necessary for sediment control structures to function properly, and they should be inspected at least once every two weeks and within 24 hours of a 1/2-inch rainfall. However, these measures are only temporary. Homeowners must permanently stabilize the soil on their properties by planting grass seed, spreading mulch and/or laying sod.

Soil stabilization should be done as soon as practical. Conditions such as ongoing construction may hamper stabilization of the entire lot all at once. A homeowner may stabilize one area at a time or leave the temporary measures in place until the entire lot can be stabilized. If the site cannot be permanently stabilized before winter, then all temporary measures must remain in place. The temporary measures may be removed once vegetative coverage is 70 percent of pre-construction coverage.

In most cases, the contractor will have completed his work before soil stabilization has been achieved. After the contractor has left, it becomes the responsibility of the homeowner to maintain all temporary control devices. The homeowner must also clean up any sediment that has been carried off the property to roadways or drainage ditches. Sediment cannot be washed into storm sewer systems.

FERTILIZER – Problems and Solutions

Fertilizers carried in runoff from home lots to waterbodies may also cause pollution. Fertilizer nutrients, such as phosphorus and nitrogen, promote rapid algae growth in a waterbody. Large algal blooms



Environmental
Quality

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EROSION AND SEDIMENT CONTROL

Land development changes the natural landscape and drainage patterns in watersheds throughout North Dakota.

Activities such as new home construction typically involve clearing the vegetation that once slowed runoff and allowed rain and snowmelt to soak into the soil. New home construction also directs stormwater to a storm sewer or drainage ditch.

Stormwater runoff is not directed to a wastewater treatment plant but runs directly into rivers, streams, lakes and wetlands. Although runoff from one lot may not be enough to cause pollution problems, runoff from hundreds of lots throughout a watershed is a different story.



SEDIMENT

Lots with bare soil are highly susceptible to erosion. As runoff from rainfall and snowmelt travels over bare soil, it picks up sediment that can be carried to a local river, stream, lake or wetland. Some soils, like clay, may take hours to settle out of water. Suspended in the water, sediment can reduce the amount of sunlight that reaches aquatic plants and may damage the gills of fish. When sediment settles out, it fills in spaces where fish lay eggs, and suffocates the eggs and aquatic insect larvae that inhabit the bottom. Soil-laden water also can interfere with recreation, making the waterbody unappealing.

During home construction, one or more of the following erosion or sediment controls may have been installed:

- **Sediment logs or silt fences** pond and filter stormwater, allowing sediment to settle out.
- **Inlet protection devices** prevent soil from entering the storm sewer.
- **Downspout extensions** direct flow from the downspout over bare soils.
- **Detention/retention areas** pond water and allow soil to settle out.

Erosion and sediment controls need to be installed so they do not cause flooding. Periodic cleaning and maintenance are necessary for devices to function properly. These measures are only temporary. Homeowners must stabilize the soil by planting grass, spreading mulch or laying sod.

FERTILIZER

Fertilizer carried in runoff to rivers, streams, lakes and wetlands can cause pollution. Nutrients in fertilizer, such as phosphorus and nitrogen, promote algae growth in a waterbody. Large algal blooms are unattractive and interfere with recreation. Excessive algae growth also impacts aquatic life. As algae dies, its decomposition depletes the oxygen in the water that fish and other aquatic life need for survival.

The following recommendations can help homeowners protect the environment when using fertilizer:

- Test the soil to determine if fertilizer is necessary.
- Apply the product according to the manufacturer's directions; avoid over-application.
- Do not apply over sidewalks, driveways or streets.

NDDEQ

- Opportunity to review documents
 - Look at content
 - Some have not been updated in 10+ years

GO! Discover ND

Your Gateway to North Dakota



Stormwater Monitoring for Industry

This is general information about the stormwater monitoring requirements of your Industrial Stormwater Permit-NDR05-0000. Please review your permit for specific monitoring and reporting requirements.

If you have questions about stormwater monitoring, please contact the North Dakota Department of Health, Division of Water Quality, at (701) 328-5210



What You Need to Know



North Dakota Department of Health

FACT SHEETS

- Most discuss construction stormwater
 - Homeowner fact sheet
 - Homebuilder fact sheet
 - Basic operation and maintenance
- Construction stormwater pamphlet
- Tip card



Pollution Control Requirements

Construction sites must minimize the amount of dirt and other pollutants that enter storm sewers, ditches and waterbodies.

- ◆ Do not litter.
- ◆ Do not track mud from the site.
- ◆ Do not damage erosion and sediment controls (e.g., silt fence, fiber rolls, erosion blanket).
- ◆ Handle wash water appropriately.
- ◆ Clean up spills before they enter storm sewers, ditches or waterbodies.



NORTH DAKOTA
DEPARTMENT of HEALTH

www.ndhealth.gov

FACT SHEETS

- Sampling basics for industrial activity
- Well pad and secondary containment dewatering guide
- Vehicle and equipment washing services guide

WEBSITE

- NDDEQ website launched in 2019
- Six stormwater websites combined into one



PRESENTATIONS

- Majority of outreach and training efforts
- Present to all stormwater stakeholders
 - Construction is the most common
- Typically 10+ presentations per year
- Various stormwater topics
- Tend to receive more feedback about stormwater permits

PRESENTATIONS

- Conferences, association meetings, brown bag lunches, company trainings
- Certification courses
- Operator training



STUDENTS

- Mostly elementary and middle schools
- Jamestown, ND: Stenciling project since at least 2000
- Bismarck, ND: Earth Day, water and science festivals since early 2000's



FUTURE

- Online instructional videos
- Social media
- Other electronic outreach



LEASONS LEARNED

- Review outreach material every once in a while
- Concise writing
- Bring backup presentations
- Collect presentation photos



A photograph of a steel truss bridge spanning a river. The bridge has several concrete piers supporting its steel structure. The river is calm, reflecting the bridge and the sky. The surrounding landscape is grassy with some trees and shrubs. The sky is blue with light clouds.

DISCUSSION

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