



ALLEGAN COUNTY HEALTH DEPARTMENT

3255 – 122nd Avenue, Suite 200, Allegan, MI 49010

Environmental Health 269-673-5415

Soil Erosion and Sedimentation Control (SESC) Program Guide

Includes:

SESC Plan Review Information

SESC Sample Site Plan

SESC Requirements & Example Control Measures

This information has been provided by Allegan County Health Department to assist in the application for and development of a Soil Erosion Sedimentation Control Plan.

If construction or earth change is started without a permit or continues without a permit, the total fee will be doubled.

A PERMIT IS REQUIRED:

- If your project involves disturbing soils over an area of one (1) or more acres.
- If your project is within 500 feet of a lake, river, stream, or wetland.
- If you are building an agricultural/accessory building
- If your construction project is for a permanent dwelling and/or large-scale additions to an existing homes and exceeds 225 square feet.

Notes to Applicant:

The applicant (person signing the application) is legally responsible for the final ground cover. If the property is sold the legal responsibility remains with the applicant unless the buyer signs a written agreement to take over all responsibility for installing the required final ground cover. A copy of that signed agreement must be transmitted to the Soil Erosion Control Agent before the permit expires.

The fully completed application form, time schedule, a legal description of the property and two sets of site plans must be submitted at least **14 days** before work is to begin.

Submit completed applications to:

**Allegan County Health Department
Environmental Health Division
3255 122nd Avenue Suite 200
Allegan MI 49010 Fax# 269-673-4172**

All sites where over 5 acres of ground are disturbed must have a licensed Storm Water Operator. That person must be listed on the application as the on-site contact. Please include the licensed operator's Michigan Department of Environmental Quality license number on the application form.

If you have any questions, contact our office at 269-673-5415

SESC APPLICATION – EXAMPLE SITE PLAN MAP

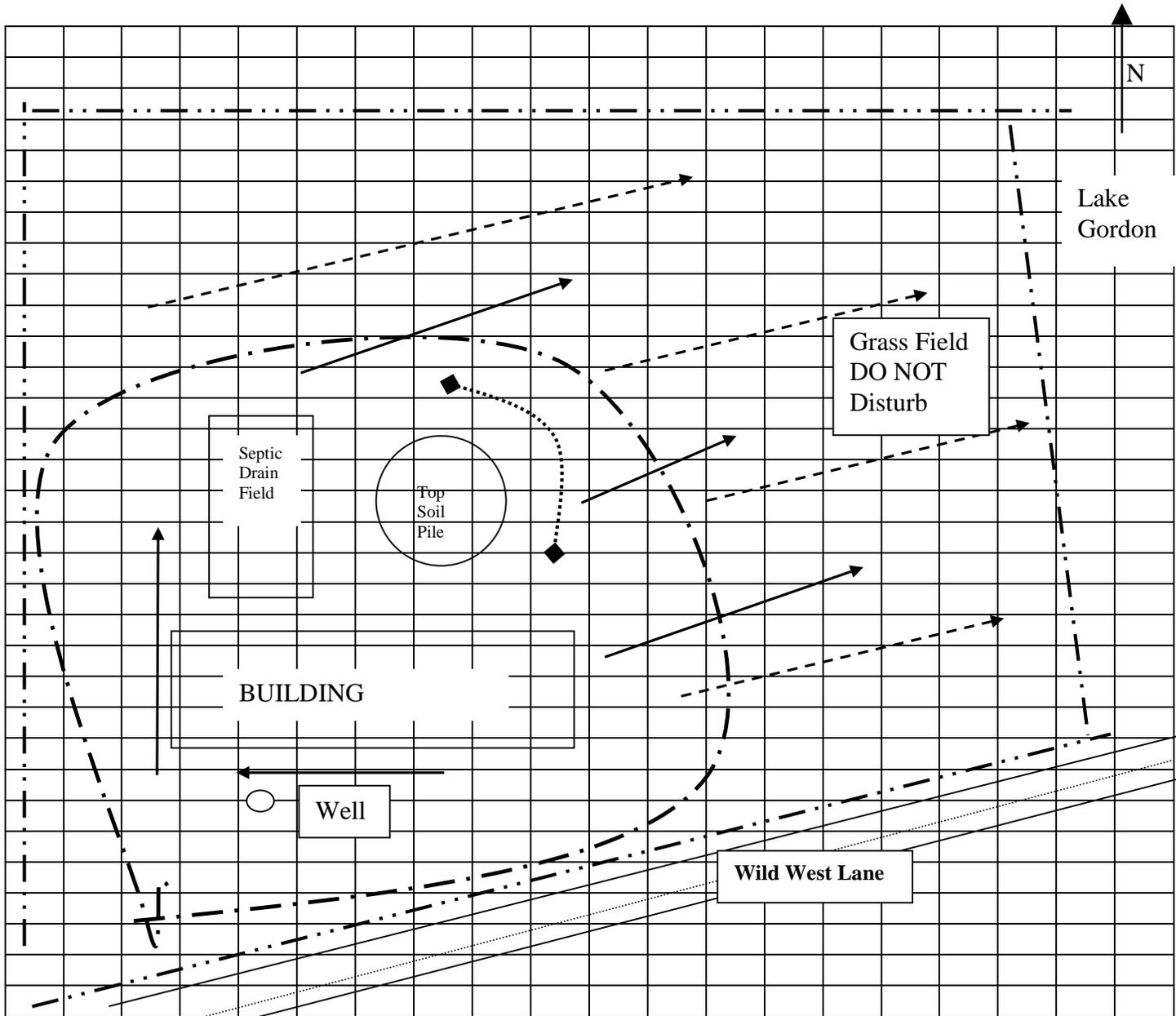
EROSION CONTROL PLAN LEGEND

Use key below to place needed objects on plan, use a scale or ruler to draw home location and locate any other trees or buildings on your property. PLEASE label roads and Body of Water. You only need to show the area that will be disturbed and the access drive.

SHOW Stone Access Drive, Tree Preservation, and Temporary Soil Stock Pile

Property Line - - - - -	Existing Drainage - - - - ->	Temporary Diversion >
Finished Drainage ———>	Limits of Grading - · - · - · - · - ·	Silt Fence ◆.....◆

OWNER: James West Phone: (XXX) XXX-XXXX	Scale 1 square = _____ Feet
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ADDRESS OR LOCATION OF PROJECT 1234 Wild West Lane, Ardimis Twp.



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Frequently Asked Questions about Soil Erosion Permits

Do I need a Soil Erosion Sedimentation Control permit?

Soil erosion permits are required for all projects involving earth moving activities that occur within 500 feet of lakes, streams, drains and water impoundments and disturb more than 225 square feet or disturb one or more acres.

Soil Erosion exemptions are allowed for those projects that:

- Disturb less than 225 square feet and are stabilized within 24 hours
- Include only shrub and tree removal when no vegetation is disturbed
- Include only post holes for decks
- Include only the plowing and tilling of fields for crop production
- Include only borings and percolation tests when stabilized within 24 hours of the initial earth change and disturb less than 225 square feet

There's no water on my site, why do I need a permit?

Proximity to drainage ditches, drainage swales, catch basins, detention or retention basins, wetlands, and designated drains must be taken into account. These may appear dry for much of the year, but all serve a vital role in the conveyance of surface water, and can carry sediment into larger bodies of water.

What is the definition of a body of water?

A lake is defined as “the Great Lakes and all natural and artificial inland lakes or impounds that have definite banks, a bed, visible evidence of continued water, and a surface area of water that is equal to, or greater than 1 acre”. A stream means a river, creek, or other surface watercourse which may or may not be serving as a drain as defined in Act No. 40 of the Public Acts of 1956, as amended, being section 281.1 et seq. of the Michigan Compiled Laws, and which has definite banks, a bed, and visible evidence of the continued flow or continued occurrence of water, including the connecting waters of the Great Lakes”.

How do I complete the timing sequence?

The timing sequence gives us a general idea of when your project will begin and when it will be finished. It also lays out a sequence of steps to follow for erosion control. Temporary measures, such as silt fence, check dams, or vegetative buffers should be installed at the beginning of the project. A stone aggregate drive should also be installed at the start of construction. Permanent measures, such as grass, shrubs, pavement or other vegetation should be installed as soon as possible after final grading. Removal of temporary measures should be done after the site is completely stabilized. For major projects please note in determining a timing sequence, detention/retention/sediment pond installation should occur at the beginning of a project and that catch basin covers should be cleaned at least once a month until permanent measures are functioning.

How big is an acre?

One acre is 43,560 square feet, or approximately 208' x 208' if square. Determine from your plans the areas where earthwork will occur and measure the areas length and width. Remember to include area for utilities, well, septic, fill brought in, lot grading, building structures and driveways.

What are impervious surfaces?

Impervious surfaces are areas that do not absorb rainfall, such as areas covered by pavement or structures. Pervious surfaces are areas that do absorb rainfall such as vegetated ground, woodlots and grasslands.

Who is the party responsible for ongoing maintenance of permanent erosion control measures?

The responsible party is the property owner and/or homeowners association for commonly held properties. Examples of permanent erosion control measures that may require maintenance are vegetation strips and storm water detention/retention areas.

Goal

The purpose of the Soil Erosion and Sedimentation Control Program is to serve the public by protecting the waters of the State of Michigan, and to ensure clean water for drinking, swimming, fish and wildlife habitat.

Why is Soil Erosion and Sedimentation Control Important?

Economic Reasons

- Excess sediment can increase the cost of treating drinking water and negatively affect the equipment used in the treatment process.
- Sites developed with sound erosion control avoid the costs of removing sediment from storm water structures. Clean sites are also more appealing to potential buyers.

Health & Safety Reasons

- Eroded soils enter water bodies and channels, raising water levels and blocking culverts, flooding surrounding land.
- Sediment can be deposited onto streets and roads by vehicles leaving the site or by storm water runoff. These sediments can make roadways dangerous.
- Soil particles carry pollutants such as pesticides, oil and herbicides, that enter water bodies along with the soil, creating unhealthy conditions for wading and swimming, and affecting water quality.

Environmental Reasons

- Sediment in water bodies can cover the eggs of fish and other organisms, preventing them from hatching.
- Excess sediment that is suspended in streams and rivers acts like sandpaper on fish and other organisms and can clog their gills, making breathing difficult.
- Sediment reduces light penetration, making photosynthesis more difficult for water plants.
- Soil particles absorb heat, raising the temperature of the water and driving off desirable fish populations.

Aesthetic & Recreational Reasons

- Clear water is more desirable for swimming, boating, canoeing and fishing than muddy water.
- Excess sediment builds up in lakes and rivers. This raises the water level but reduces water depth, which decreases canoeing and fishing opportunities.

Soil Erosion Control Requirements

- Earth moving activity cannot begin without a Soil Erosion Permit. The Soil Erosion Permit must be posted and be clearly visible from the road.
- Soil erosion and sedimentation control measures as designated on plans and/or as required must be installed prior to any earth moving activities.
- Earth changes to a property must not adversely affect drainage to surrounding areas.
- Detention/retention/sedimentation ponds must be constructed and stabilized prior to other earth moving activities.
- Outlets of detention/retention/sedimentation ponds shall be designed and constructed to reduce the water flow to a non-erosive velocity. Rip-rap must be installed on all storm water outlets.
- All earth moving shall be designed, constructed and completed in such a manner that limits the exposed area of any disturbed land for the shortest possible period of time. The site must be stabilized within 5 calendar days after final grading or earth moving activity has been completed.
- Stone access drives, if required, must be installed prior to construction for purposes of mud tracking.
- Soil, sediment, and miscellaneous debris must be kept off streets and out of drainage ditches and catch basins throughout the duration of the project.
- Silt fencing, if required, must be trenched in and backfilled. Fencing may be toed-in with pea gravel if installed in winter.
- Stockpiling of any excavated material must be kept clear of sensitive areas. Adequate controls must be in place to ensure this requirement.
- Erosion control blankets are required on slopes of 4:1 or steeper.
- All permanent erosion control measures shall be permanently maintained by the owner or homeowner association.

Soil Erosion and Sedimentation Control Measures

CATCH BASIN FILTER - Geo-textile filter fabric placed inside a catch basin (storm drain) to filter suspended sediment from water. Must have regular maintenance after storm or snow melt events to function properly.

CHECK DAM - Temporary measure consisting of a line of 4-8" stone piled a maximum of 2 ft. high that slows the flow of water in ditches, swales or natural drainage areas. Check dams should be built so that the center of the wall is lower than the outside edges, and should be spaced so that the top of the down slope check dam is level with the bottom of the upslope check dam.

DETENTION/RETENTION BASIN - Drainage basins or ponds designed to hold and filter water draining from developed site so as to prevent flooding and filter suspended sediment from water. Required for most major projects.

EROSION CONTROL BLANKET - A blanket composed of a mesh of biodegradable material, usually interlaced with straw mulch, and sometimes containing grass seed, used for controlling erosion on steep down slopes. Erosion Control Blankets must be staked in, trenched in at the top and flat against the ground.

RIP-RAP - Rock-type material (usually 6-8' stone) placed on the edges of culverts or drainage outlets to slow water to a non-erosive velocity, preventing erosion. Stone should be arranged in a half-circle around the end of the outlet.

SILT FENCING - Temporary measure consisting of wooden fence posts, support system, and a geo-textile filter fabric (usually nylon) used to keep suspended soil particles from leaving the site. Required to be trenched in to a depth of 6".

VEGETATIVE BUFFER - A strip or area of vegetation used to filter sediment and pollutants from runoff. The minimum width for a filter strip is usually 25'.

Methods of Acceptable Stabilization of Disturbed Soils

The best way to avoid soil erosion is to disturb the least possible amount of soil during grading and construction. If erosion control measures are not functioning properly, causing erosion to occur on the site, the site will not be considered stabilized.

MAINTENANCE IS THE KEY TO PROPER SOIL EROSION CONTROL!

Temporary Stabilization - These measures will temporarily prevent soil erosion.

- 1) **Mulch** - This typically is in the form of straw, spread heavily over a disturbed area to protect the exposed soil from rain and wind erosion. For proper stabilization, the soil must not be visible through the mulch. Mulch should be used: In flat areas with a low amount of water runoff, and/or in areas with adequate protection from high winds. High velocities of run-off will wash away mulch on moderate to steep slopes. High winds can also carry mulch away. Spreading seed prior to mulching greatly aids in the permanent stabilization of the site.
- 2) **Erosion Blankets** - Consist of straw, coconut fiber or excelsior fiber packed in web netting. Erosion control blankets are suitable for moderate slopes and steep slopes on sites with soil that is susceptible to erosion. The blankets are laid at right angles over a disturbed area, staked in place, and toed in at the top of the slope, with a 6-inch overlap of all edges. Blankets are also available with seed in them to enhance permanent stabilization of the slope. If rills (narrow-bands) and gullies (wide-bands) are eroding underneath the blankets, the soil will not be considered stabilized.
- 3) **Hydro Seed** - Hydro seed may be used as temporary stabilization on relatively flat areas with low volume of runoff. Hydro seed can wash away easily in heavy rains. It is recommended that hydro seed with a high content of mulch be used to provide a better barrier between the weather and the soil. If cared for properly, hydro seed will grow, stabilize the site, and provide permanent stabilization.
- 4) **Tarps** - These are plastic sheets used to cover stockpiles or small disturbances. They may not be used for large disturbances.

Permanent Stabilization - These measures will permanently prevent soil erosion when they are functioning properly. When all exposed soil at a site is permanently stabilized, the project will receive final approval from the Soil Erosion and Sedimentation Control Program.

- 1) **Established Vegetative Cover** - Any form of vegetation that provides a root base in the soil and a barrier between the soil and the weather can be considered permanent stabilization. Forms of acceptable vegetative cover when properly installed and maintained are sod, grass, native trees, shrubs and ground cover.
- 2) **Woodchips** - As part of landscaping a thick layer of wood chips or other "permanent" mulch is acceptable in non- sloped areas.

- 3) **Stone** - A thick layer of stone is considered permanent stabilization on all areas except steep slopes. This includes gravel drives, stone gardens, and pavers used for foot traffic. Geo-textile fabric placed underneath stone in swales and drives is advisable.
- 4) **Pavement** - Roads or driveways are considered permanent stabilization.

It is important to remember that none of the above methods guarantee stabilization. Proper maintenance is the key to good stabilization. The members of the Allegan County Health Department SESC Program staff are happy to answer any questions. Contact us at (269) 673-5415.

Tips on locating required information:

Site location Map County Plat Book, USGS Quadrangles, Allegan County Map, Internet Mapping Sites (Map quest, www.topozone.com, www.michigan.gov/dnr)

Soils Information Soils Conservation Office, Library, Local Health Department, Engineering Firms, Local County GIS Department

Site Contours USGS Quadrangles, Engineering Firms, Internet Mapping