

CITY OF HAM LAKE

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Single Family Residential Construction Erosion/Sediment Control Standards

This booklet contains standard plans and procedures sufficient for typical building construction. It is not intended to address all circumstances that can occur during construction.

The goal of this booklet is to educate home builders so we can eliminate or reduce the amount of sediment that leaves construction sites and is deposited in the City's streets and storm sewers. Since our streets and storm sewer convey storm water to lakes and rivers, it is important that we keep these sediments and pollutants off our streets and out of our storm sewer system so they will stay out of our wetlands, lakes and rivers.

For lots that are part of a larger subdivision which has a NPDES Storm Water Permit, the homebuilder must complete the MPCA Subdivision Registration form. All building construction must meet the requirements of the City's Erosion and Sediment Control Ordinance.

Best Management Practices:

Also known as BMP's, these include but are not limited to temporary construction entrances, silt fence, seeding, erosion control blankets, construction phasing or any other device or procedure that helps reduce erosion and sediment loss.

Installation Sequencing: The following is the order in which most BMP's must be utilized.

1. Inlet Protection — Ensure that all storm inlets that receive runoff from your lot have protection.
2. Perimeter Control — Devices such as silt fence, bio-rolls, grass buffers, or straw bales must be installed on all areas where runoff leaves your site.
3. Temporary Construction Entrance — A stabilized entrance made of rock shall be installed for access to the property. All vehicles entering the site shall use the construction entrance.
4. Grading/Excavating — All BMP's should be installed prior to any grading or excavation. Dewatering for any trenching or excavation must be done in such a manner as not to deposit sediment downstream. Filter bags, sedimentation basins or some other means of removing sediment from dewatering water must be used prior to discharging water off site. **Discharge water should be clear.**
5. Stockpiles — Perimeter control should be installed around all stock piles. They should be stabilized if they are not actively being worked.
6. Backfill and rough grading — Care should be taken to avoid disturbing the perimeter control.
7. Maintenance — All BMP's should be maintained so the devices are functioning properly. All sediment should be removed from the streets, gutters and inlets within 24 hours as required.
8. Final Grading— All BMP's should be left in place until the site has vegetation established to the approval of the City.
9. Seeding or Sodding— All disturbed areas must be seeded or sodded within two weeks of completion of final grading during the spring and fall growing seasons (April 1 thru September 30). Erosion control measures are to be operational until vegetation is established. If final grading of disturbed areas occurs between the dates of October 1 to March 30, those areas must be seeded or sodded by June 1.

Permit Holders Responsibility

1. If lot is part of a subdivision, permit holder must comply with NPDES permit and SWPPP for the lot.
2. Ensure that adequate BMP's are in place and functioning to until the project is complete.
3. Provide periodic inspection of BMP's at least once a week and after ½ inch or greater rainfalls.
4. Maintain all BMP's in working order. Remove sediment from inlet protection, perimeter control and other devices as needed.
5. Removes all sediment that is deposited on streets or adjacent lots within 24 hours of discovery.

Maintenance requirements:

1. Maintains the perimeter control at all times.
2. All perimeter control that is collapsed, torn down, or ineffective, is replaced or repaired.
3. Remove sediment from perimeter control devices when sediment reaches 1/3 the height of the device.
4. Remove sediment from inlet protection when it accumulates.

Inspections — City

The City of Ham Lake will conduct erosion and sediment control inspections in conjunction with routine building inspections to ensure that the appropriate erosion and sediment control measures are in place and properly secured. If the property is under an MPCA NPDES Permit (Subdivision Registration), the Anoka Conservation District (ACD), Coon Creek Watershed District, Upper Rum River Watershed Management Organization (URRWMO), Sunrise Watershed Management Organization (SRWMO) or MPCA may also inspect the site for compliance.

The first inspection will occur prior to the footing inspection. It is expected that inlet protection and perimeter control be installed, stockpiles protected, and construction entrance installed. BMP's that are not installed or installed improperly will result in the footing inspection to be denied. If sediment is found to be eroding off the construction site, a stop work order may be issued until the sediments are removed and the proper BMP's have been established.

At all subsequent inspections, the BMP's will be subject to inspection to make sure they are working properly. BMP's that are not installed or installed improperly will result in the inspection to be denied. If sediment is found to be eroding off the construction site, a stop work order may be issued until the sediments are removed and the proper BMP's have been established.

Upon final completion of the project the entire site must be stabilized. This can be done through sodding or seeding the site. Only when vegetation is established can the sediment control devices be removed.

Construction BMP's

The following few pages give a few examples of the type of BMP's that should be on every site. Additional BMP's may be required depending on the site, its topography, location, layout, etc. For additional information on BMP's visit the City of Ham Lake's website at www.ci.ham-lake.mn.us.

Temporary Construction Entrance

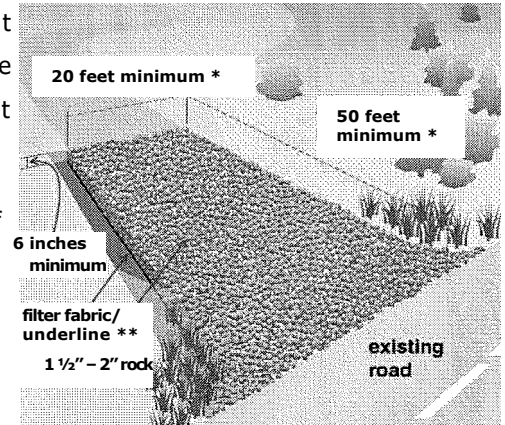
Each building site must have a designated construction entrance. The entrance shall be covered with minimum 1½" rock. All vehicles that access the site should use the construction entrance. A rock entrance prevents sediment from being tracked off site from vehicles. Any sediment that is tracked off site must be removed within 24 hours of discovery.

The entrance should be maintained by adding rock if large volumes of sediment accumulate. Maintain a minimum 6" depth.

The drawing on the right shows a typical plan of what a construction entrance should look like.

* Or as authorized by the City.

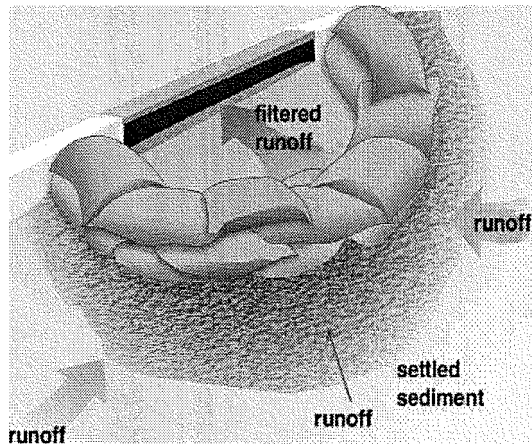
** Filter Fabric may be used under the rock to prevent the migration of the underlying soil into the rock construction entrance.



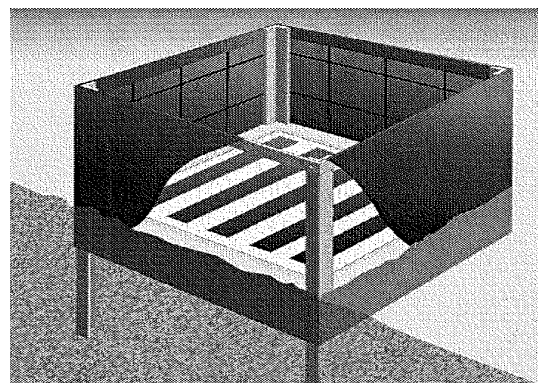
Source: MPCA Stormwater Construction Inspection Guide

Inlet Protection

Inlet protection is required on all storm sewer inlets located downstream of the construction site where runoff from the site may enter. The inlet protection must be installed prior to disturbing the ground, and only removed when turf is established.



Source: MPCA Stormwater Construction Inspection Guide



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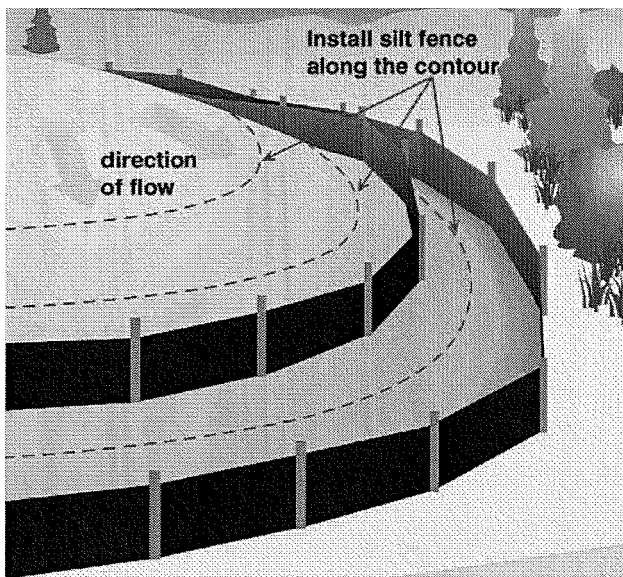
Perimeter Control

Perimeter control is required on all downstream areas on the site where runoff could leave the site. Items that can be used for perimeter control include silt fence, bio-rolls, seeded top soil berm, or straw bales.

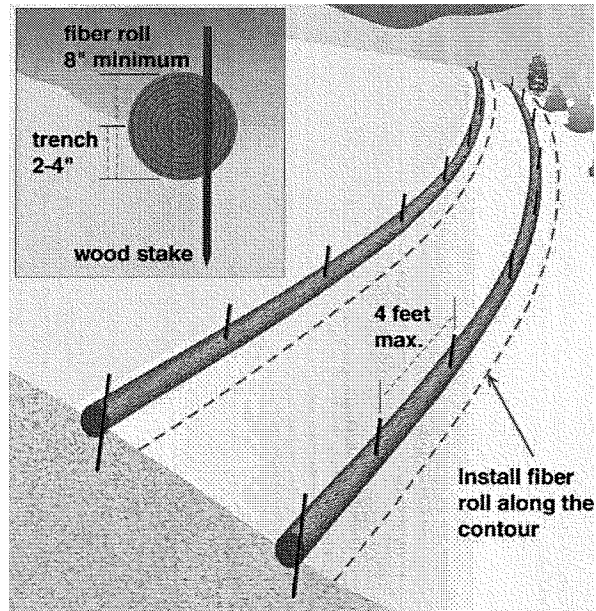
Silt Fence is the most common type of perimeter control used. To be effective the silt fence must be installed properly. To install correctly, the bottom of the fence must be installed in a 6 inch deep trench and anchored with soil as shown in the detail.

Bio-rolls or sediment logs are made of straw or wood fiber bound by a net to form a shape of a tube. They are typically 6 to 12 inches in diameter and usually 8 to 10 feet long. The bio-rolls are held in place by placing a stake. The bio-rolls are easy to install and work great for providing perimeter control next to sidewalks or curb and gutter.

Straw bales work as excellent perimeter control to prevent sediment from running into wetlands or low areas.



Source: MPCA Stormwater Construction Inspection Guide



Source: MPCA Stormwater Construction Inspection Guide

Miscellaneous

Other pollution control items that need to be addresses during construction include site waste control, concrete washout, and dewatering.

During construction, all construction waste on the site should be put in an approved container. Care should be taken to prevent debris and garbage from being blown off site. Hazardous materials such as gas, oils, paints and solvents should be stored in proper containers to prevent leaks and should be disposed of properly.

Concrete washout on the site should be at a location which will not discharge off site. Washing concrete out into the street or into storm water inlets is considered an illegal discharge.

Dewatering is another area construction item that needs to be addressed. All water from dewatering practices must be clear before it is discharged off site. If the water is turbid or sediment laden it must be treated with appropriate BMP's before discharging offsite. This may include using a filter bag, dewatering into a sedimentation basin or into a grass swale where the water can infiltrate into the ground. Sediment laden water that is discharged off site is considered an illegal discharge.

Questions:

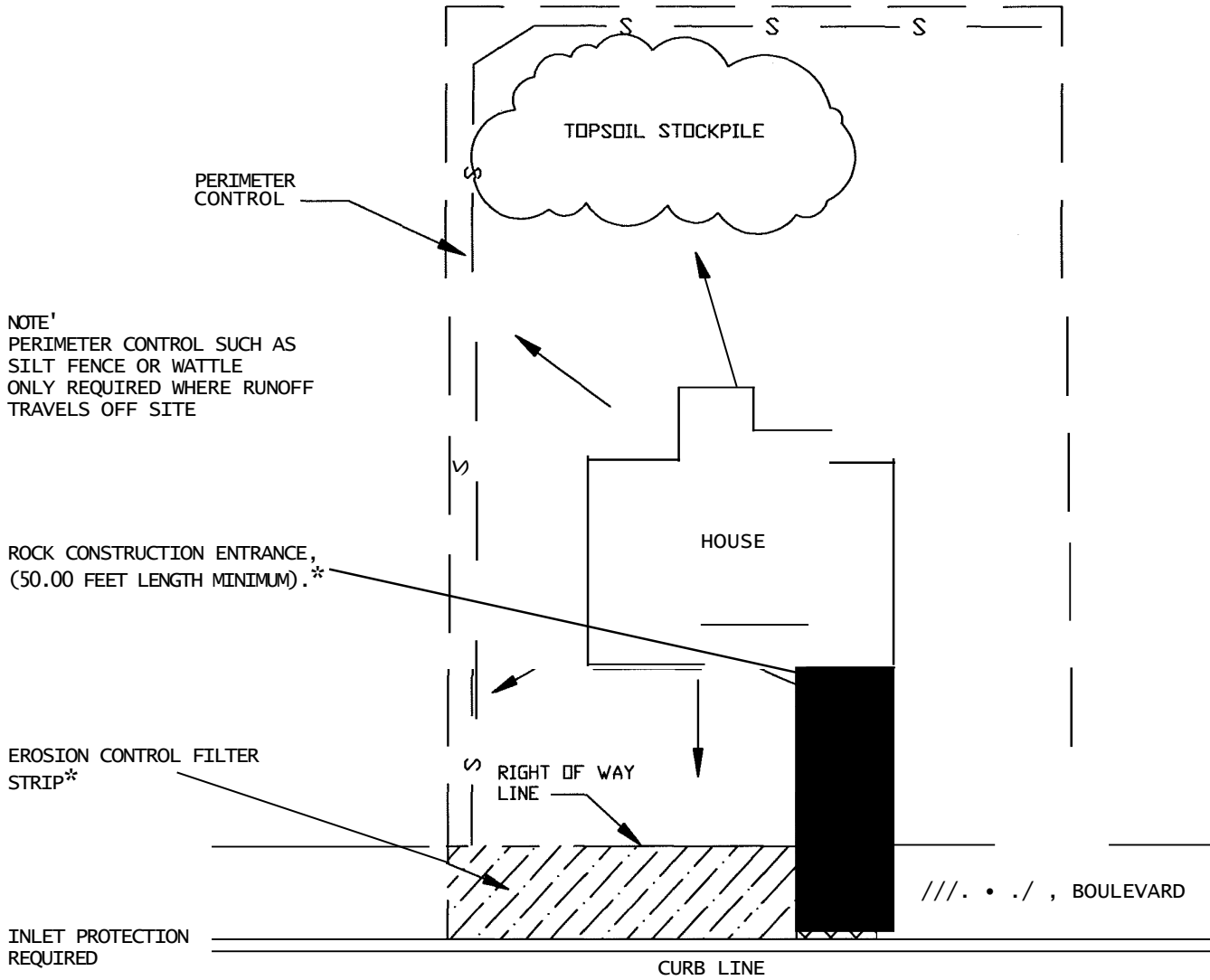
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If you have any question regarding erosion and sediment control on your site or on the City's requirements please contact the Public Works Department at 763-434-9555.

TYPICAL SINGLE FAMILY LOT EROSION CONTROL PLAN

THIS IS A TYPICAL LAYOUT OF B.M.P.'S, THAT ARE TO BE UTILIZED ON SINGLE FAMILY HOME CONSTRUCTION. ADDITIONAL B.M.P.'S MAY BE REQUIRED TO MEET STATE AND LOCAL REQUIREMENTS.

ANY SEDIMENT DEPOSITED OFFSITE OR IN THE STREET SHOULD BE REMOVED WITHIN 24 HOURS, ROCK ENTRANCE, INLET PROTECTION AND PERIMETER CONTROL SHOULD BE INSTALLED PRIOR TO DISTURBING ANY SOIL.



NOTE:
PERIMETER CONTROL SUCH AS SILT FENCE OR WATTLE ONLY REQUIRED WHERE RUNOFF TRAVELS OFF SITE

ROCK CONSTRUCTION ENTRANCE, (50.00 FEET LENGTH MINIMUM).*

EROSION CONTROL FILTER STRIP*

INLET PROTECTION REQUIRED

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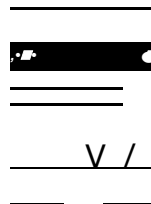
STREET

STREET

TEMPORARY, OR PERMANENT COVER SHOULD BE ESTABLISHED WITHIN THE FOLLOWING TIME LIMITS.

SLOPES STEEPER THAN 3:1 (WITHIN 3 DAYS). SLOPES FROM 3:1 TO 10:1 (WITHIN 14 DAYS). SLOPES LESS THAN 10:1 (WITHIN 21 DAYS).

* Or as authorized by the City



SILT FENCE/WATTLE

1½ - 2" ROCK ENTRANCE

DIRECTION OF SURFACE RUNOFF

GRASS BARRIER STRIP

LOT LINE