Erosion/Sediment Controls – Frequently Asked Questions and Information

1. What are erosion/sediment controls?

Erosion/sediment controls are materials that are placed within or around a project site in order to prevent erosion or movement of soils and sediments, and/or to act as a "limit of work". They can be comprised of multiple types of materials and may be utilized in a variety of situations.

2. Why are erosion/sediment controls necessary?

First, earth disturbance activities such as excavation, grading, utility installations, compaction, tree removal, etc. may result in the mobilization of soils and sediments during or after work activities. This migration may occur due to a variety of reasons; however, tracking of heavy equipment, rain events, and snowmelt are the main causes.

These sediment and soil materials, once in migration, may reach sensitive wetland resource areas, offsite properties, roadways, drainage infrastructure, or rivers/streams. Excess sediment and soils can cause issues like clogging storm drains and catchbasins, impacting the integrity of roadways, and affecting wildlife and plant life in aquatic environments.

The most effective way to prevent erosion/sediment control issues is to keep those soils and sediments on the property where the work is taking place.

Second, erosion/sediment controls that are placed around a work area function as an indicator of the "limit of work." They help to prevent project-related impacts to areas outside of that limit of work boundary.

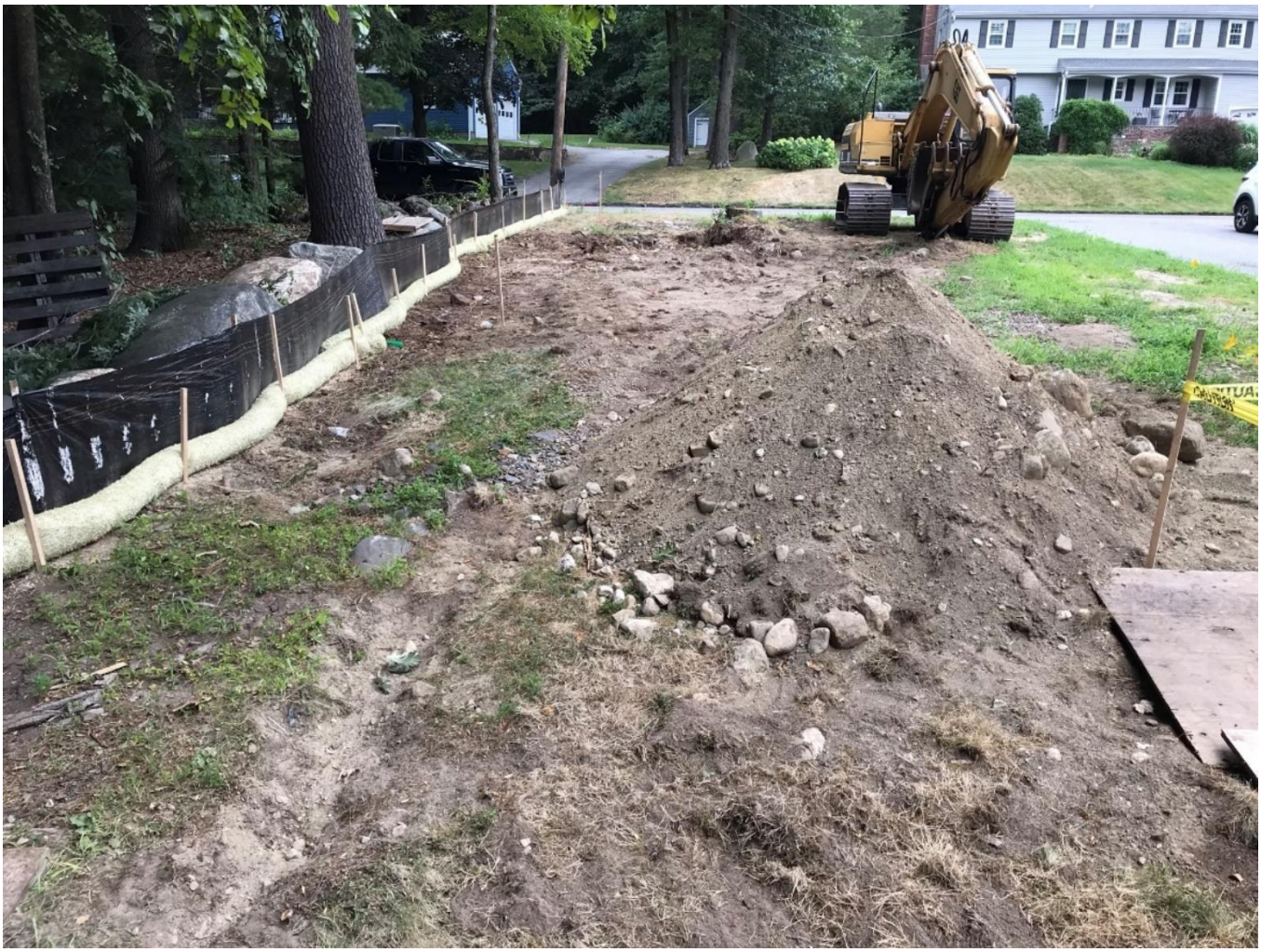
Collectively, properly installed and maintained erosion/sediment control materials are a critical tool in limiting potentially harmful impacts resulting from construction projects.

3. Types of erosion/sediment controls.

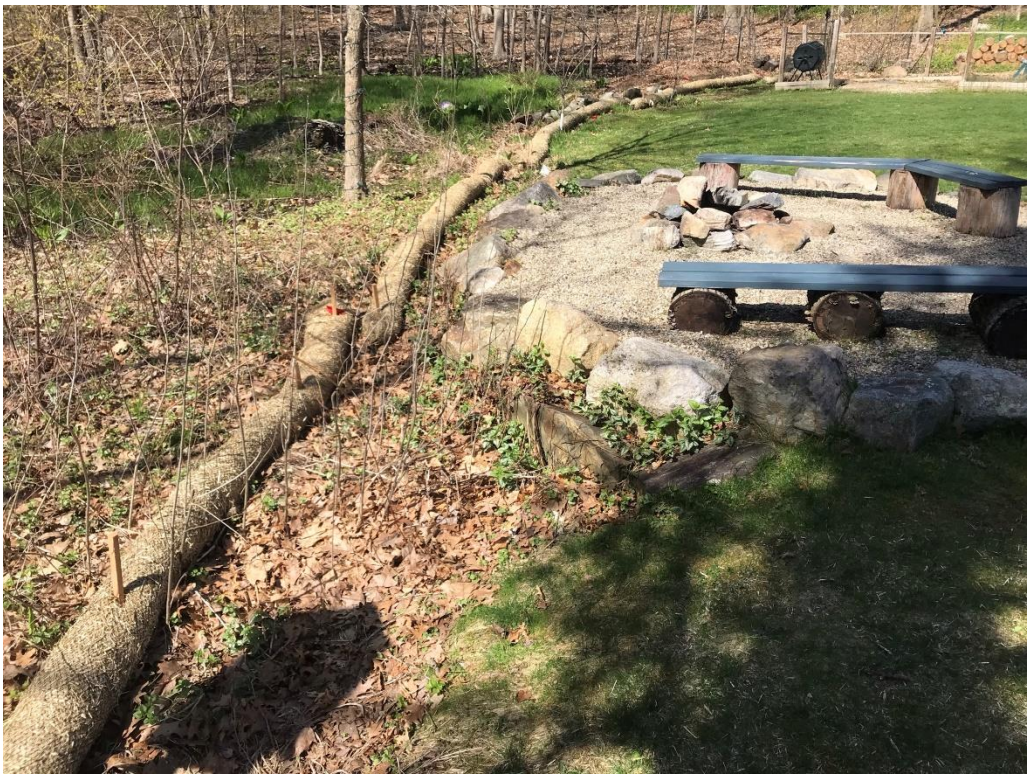
Examples of erosion/sediment control materials include the following:

3A. Straw Wattles

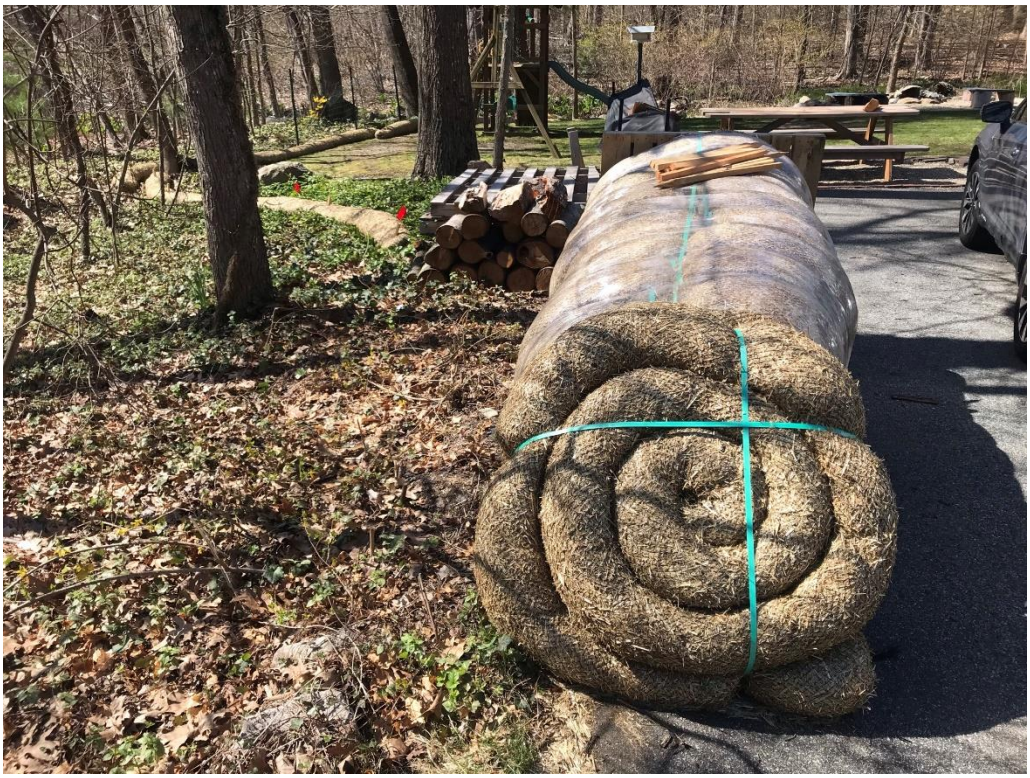
Straw wattles are nylon netting or plant fiber tubes that are filled with straw. They are available in several diameters and lengths. They may be placed as a standalone material or in conjunction with silt fence. Their sizing and diameter are chosen by the engineer, landscape architect, wetland scientist, or other professional who developed the design plan(s) for the proposed project.



Picture 1. Straw wattles – along with black silt fence - staked in place at the limits of work of a septic system replacement project on the property of a single-family home in Andover. When used in conjunction with silt fence, straw wattles are placed in front of the silt fence to capture runoff, soils, etc. before they migrate off of a worksite.



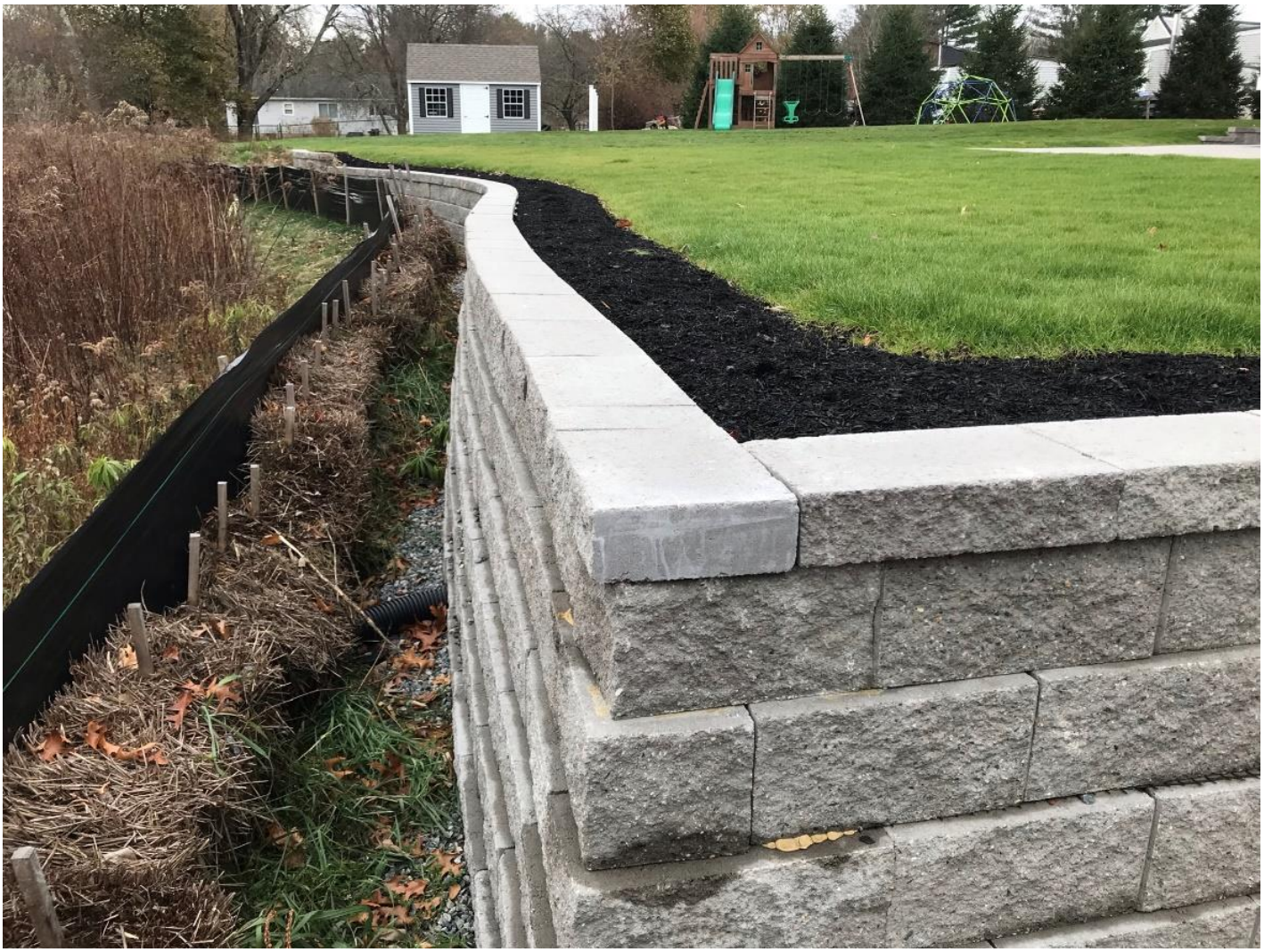
Picture 2. Straw wattles staked in place at the limits of work prior to the start of a landscaping project on the property of a single-family home in Andover.



Picture 3. Straw wattles rolled up for future use for a landscaping project on the property of a single-family home in Andover.

3B. Silt Fence

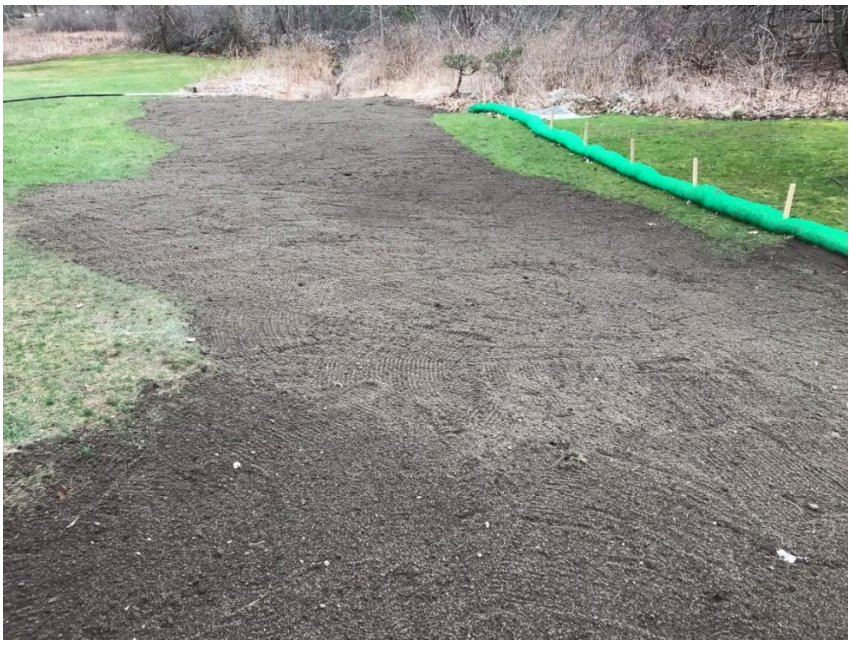
Silt fence is flexible, strong, nylon fencing – usually black in color - that is staked in place by attaching it to grade stakes. Silt fence is often used in conjunction with straw wattles or hay bales when extensive earthwork or a long-duration construction project is expected.



Picture 4. Staked-in hay bales and silt fence at the limit of work between a retaining wall/landscaping project and a wetland in the backyard of a single-family home in Andover.

3C. Mulch Socks

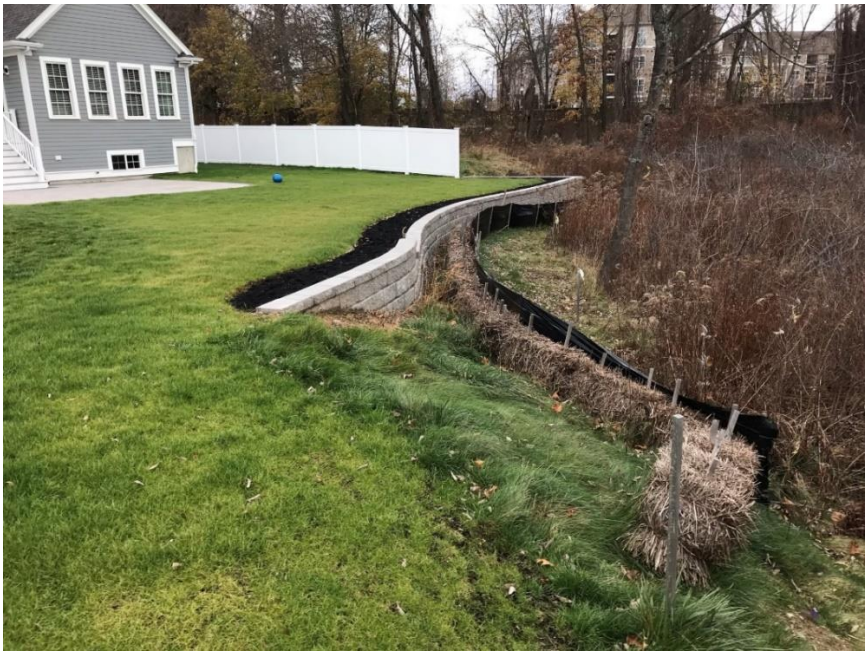
Mulch socks are nylon netting tubes – similar to straw wattles – that are filled with wood mulch. They are available in several diameters and lengths.



Picture 5. Staked in mulch sock at the limit of work between a landscaping project and a wetland in the backyard of a single-family home in Andover.

3D. Hay Bales

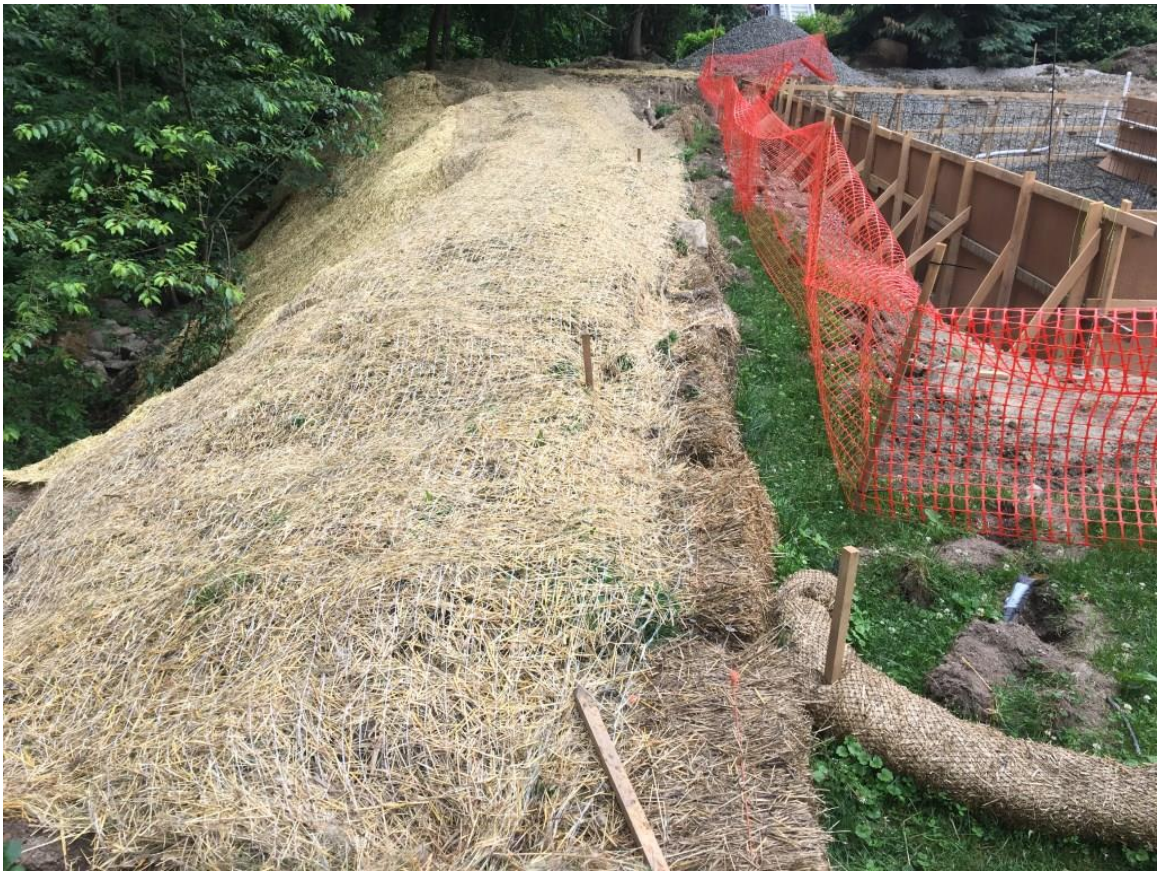
Hay bales – the same as the kind used to feed livestock – are very effective erosion/sediment control materials. They are usually staked in place with wooden grade stakes.



Picture 6. Staked-in hay bales and silt fence at the limit of work between a retaining wall/landscaping project and a wetland in the backyard of a single-family home in Andover.

3E. Jute Mat/Straw Mat/Landscape Fabric

Matting is available in several different kinds of materials. Most common are matting materials made of jute (a plant fiber material that is also used to make burlap), straw matting, or landscape fabric. All three of these types of mats are placed over the ground and held in place with landscape staples. They are often deployed on slopes where soil remains unstabilized and where no vegetation has taken hold yet. Matting is often used in combination with hydroseed. Other material options – such as erosion control blanket or landscape fabrics – may also be available. Some types of matting (such as jute matting) may be purchased that are biodegradable.



Picture 7. Straw matting in place over a steep slope of exposed soil. Note combination of erosion/sediment control materials including hay bales, straw matting, and straw wattles. Orange snow fence in place to clearly mark area of deep excavation around an inground pool that is under construction at a single family home in Andover.

3F. Hydroseed With Tackifier (Soil Binder)

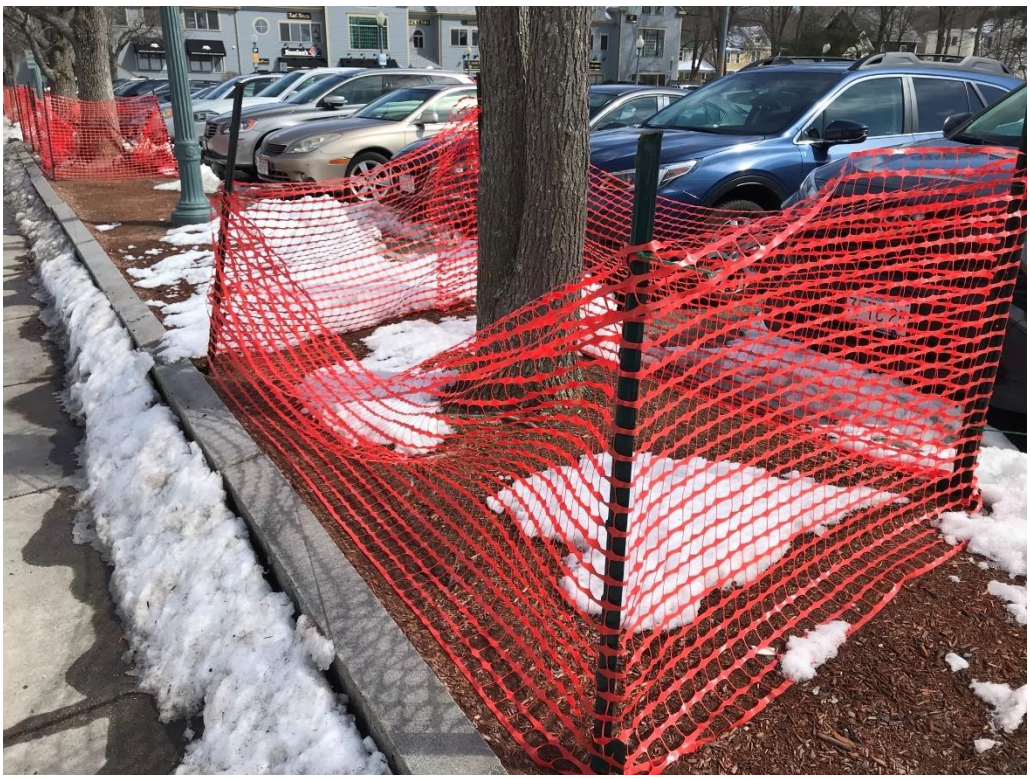
Hydroseed is sometimes combined with tackifier and used in situations where extra soil stabilization is needed. Tackifier (aka soil binder) is a product that hydroseeding contractors may add to the hydroseed mixture to help bind the seed, fertilizer, and mulch to the soil surface.

3G. Straw/Hay

Straw or hay is placed loosely over unstabilized soil to help keep it in place prior to stabilization with vegetation, hardscaping, etc. Used in similar applications as jute mat or hydroseed. Between these three ground cover options, straw/hay may be a more economical option for a temporary ground covering.

3H. Snow Fence

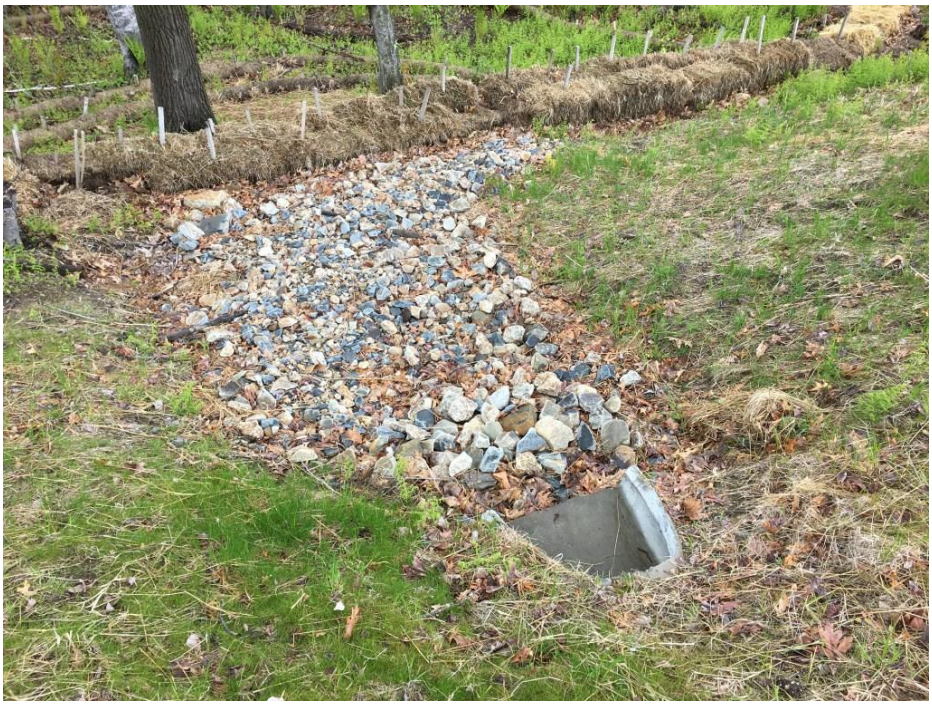
Snow fence is a plastic, wide opening mesh material that is usually propped up with wooden or metal stakes. It is only effective as a high visibility/limit of work material. It provides no value for erosion/sediment control purposes, and is often used on construction sites to protect sensitive areas or landscape features (such as trees) during the construction phase of a project.



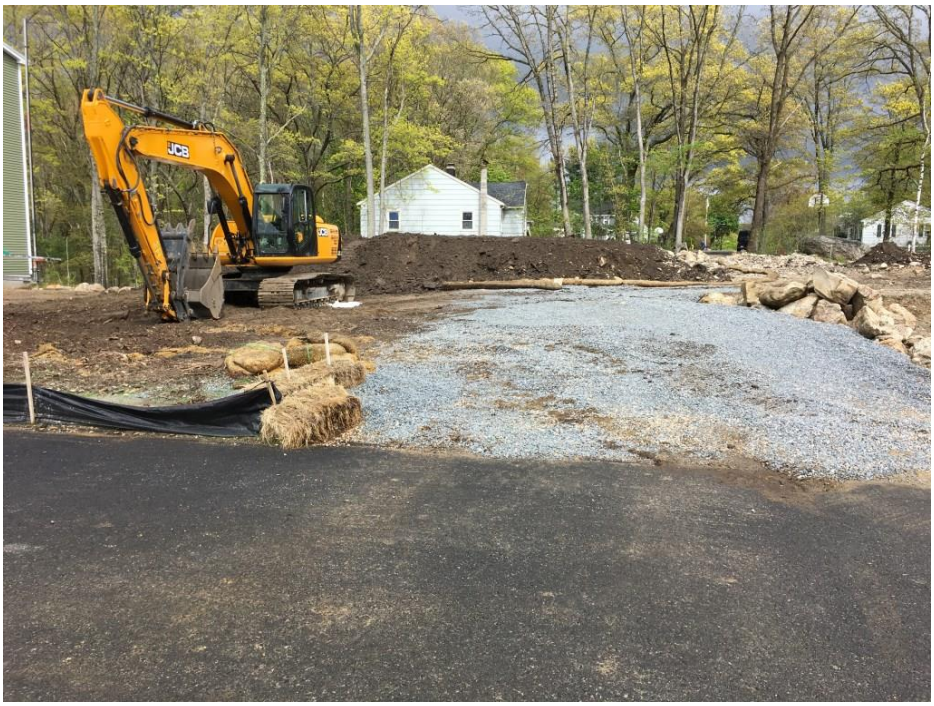
Picture 8. Staked in snow fence protecting street trees in an active construction site in Andover. Street trees to remain.

3I. Crushed Stone/Rip Rap

Crushed stone, in varying sizes, can be used as an erosion/sediment control material. It is more commonly used in locations where high volume and/or high velocity water flows are expected, such as at the outlets of stormwater detention basins. It is also used as a material for stabilizing vehicular access points to construction sites to help prevent sediment tracking onto roadways.



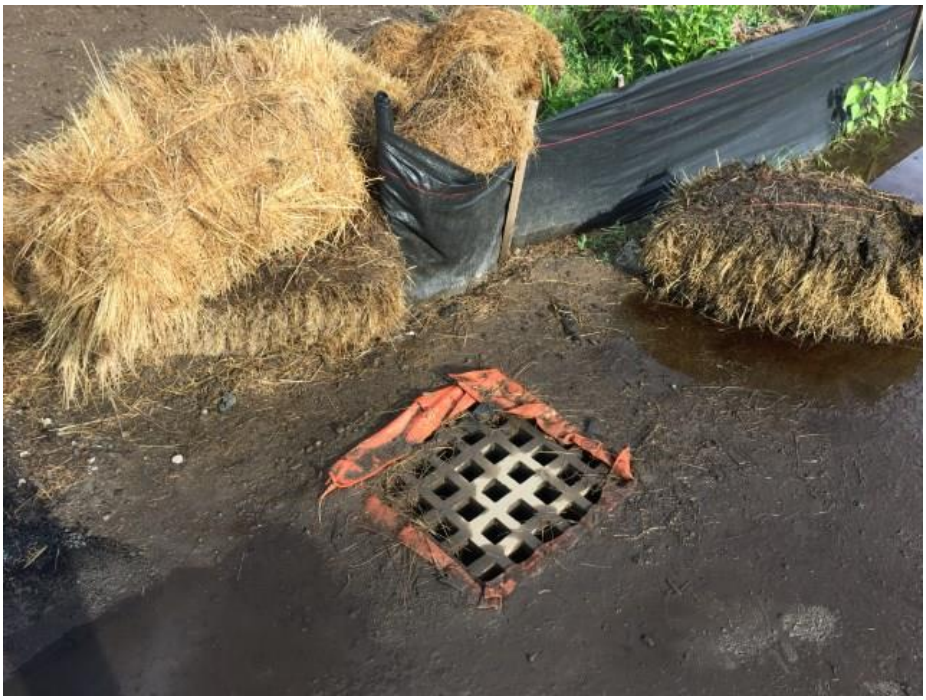
Picture 9. Crushed stone/rip rap at the outlet of a stormwater infiltration basin in Andover.



Picture 10. Crushed stone in place at the entrance to a construction site in Andover.

3J. Silt Sacks

Silt sacks are fine mesh bags – usually orange or yellow in color – that are placed within catch basins to prevent sediment or other materials from collecting within a catch basin or drainage system. They are usually in place for the construction phase of a project and are removed once the project is complete. In order to maintain their effectiveness, silt sacks should be cleaned regularly. They are most often utilized during large construction projects and are cleaned and maintained by site contractors involved in the project.

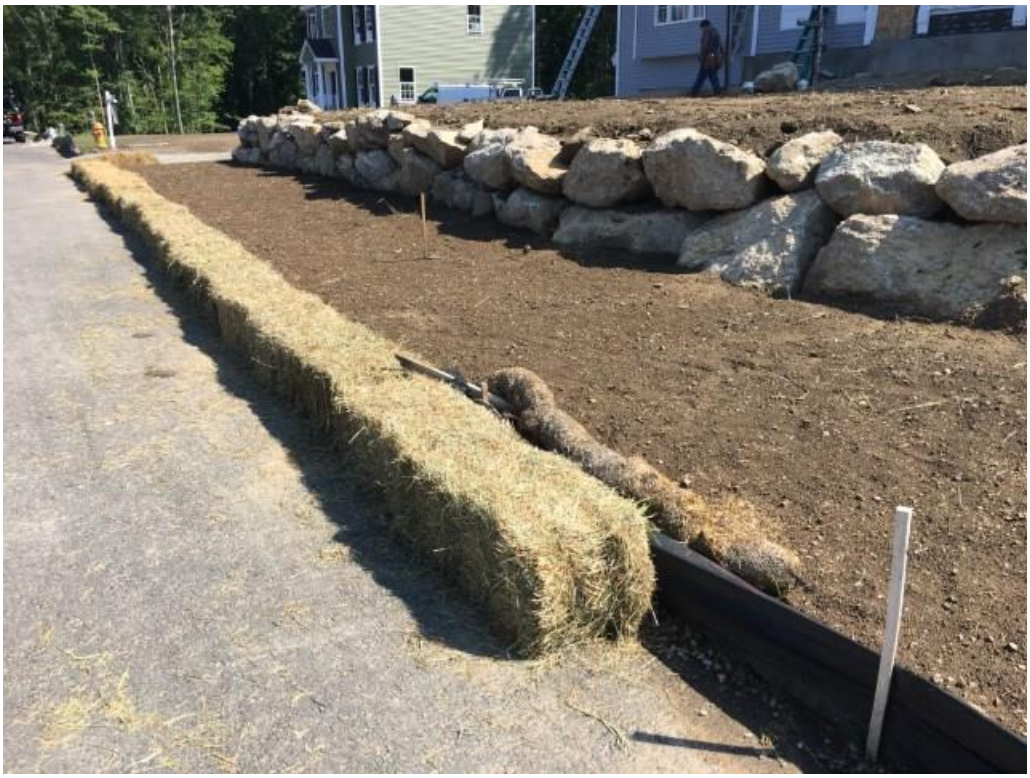


Picture 11. Silt sack in place during a construction project in Andover. Note evidence of silty/muddy water around catch basin and efforts to protect catch basin with hay bales and silt fence.

4. Where are they placed?

Erosion/sediment controls are usually placed at the limit of work of a given project, between the work area and any wetland or body of water such as a river or stream. On construction plans or other approved plan, the limit of work is clearly labeled. They may also be placed strategically at the limits of work – such as at a property line, edge of a roadway, around drainage infrastructure, or on disturbed soils. These locations would be shown on the approved plan for the project.

If your project requires erosion/sediment controls and you are unclear about where they should be placed, you are welcome to call the Andover Conservation Department – (978) 623 8630 – or email CDPConservation@andoverma.us for advice if you have any questions or concerns.



Picture 12. Straw wattles, hay bales, and silt fence placed between a newly graded house lot and the roadway in Andover. Prior to hydroseeding, soils are disturbed. This soil is highly vulnerable to being washed away during a rain event.

5. Why are specific erosion/sediment controls used for a given project? Who makes the decision of what type should be used for my project?

There are a number of considerations to be made when the type of erosion/sediment control is chosen for a given project. These considerations include the type of project, the size of the project, the proximity to wetland resource areas, and other project and location-specific characteristics. Generally, the erosion/sediment controls chosen for large, long-duration projects include haybales and silt fencing (used together for maximum effectiveness) or straw wattles and silt fencing (used together for maximum effectiveness). For larger construction projects, the engineer, engineering firm, landscape architect, or wetland scientist who designed the project decides the type of erosion/sediment control materials to be used and includes them in the design plans.

For shorter, less intensive projects (such as many single family home improvement projects such as porches, patios, landscaping, etc.), simply straw wattles or silt fencing alone will suffice.

6. Where can I get them?

Erosion/sediment control materials may be purchased at a variety of locations. Please refer to the final page of this document for a listing of local vendors and their contact information.

7. How much do they cost?

Costs vary depending on which material is purchased and how much is needed. The vendors listed on the final page of this document can provide up to date pricing information.

8. If my project requires erosion/sediment controls, how will this be specified in my wetlands permit?

If you are an applicant/project proponent and you have been issued a permit by the Andover Conservation Commission, it is common for the permit to require the placement of erosion/sediment controls. The requirement to place erosion/sediment controls is usually listed in a permit's Special Conditions and is shown on the project's approved plan.

The following are examples of these Special Conditions describing erosion/sediment controls.

Determination of Applicability Permit Special Condition example:

> *"EROSION CONTROL. Prior to commencement of work the applicant shall install a row of staked in mulch socks and silt fence for erosion/siltation control on the subject site in accordance with the above-referenced plan. A written request for inspection of the erosion/siltation controls shall be submitted to the Conservation Commission, and a satisfactory inspection performed before any land disturbing activity may commence.* ***No erosion/siltation control inspection will be scheduled until such time as proof of recording is received by the Conservation Commission, as required above.*** *Other erosion/siltation controls may be required by the Conservation Commission or its agents as field conditions warrant****. The erosion/siltation control devices shall not be removed until the commission or its agent has reviewed and found satisfactory the stabilization of the disturbed area.****"*

Orders of Conditions (Notice of Intent) Special Condition example:

> *"INSTALLATION OF EROSION/SEDIMENT CONTROLS.* ***Prior to commencement of work*** *the applicant shall retain the services of the design professional or a Professional Land Surveyor to stake out the location of the proposed erosion/sediment controls. The applicant shall then install* ***appropriate*** *erosion/sediment controls (staked straw wattles and silt fence) in accordance with the above-referenced plans* ***that have been approved by an Agent for the Commission and are specific to site conditions****.*
>
> *All debris, fill and excavated material stockpiles within 100 feet of a wetland area must also be surrounded by appropriate erosion/sediment controls in order to prevent sediment from surface runoff from entering the wetland. The erosion/sediment controls shall be the Limit of Construction, beyond which no earth-disturbing activity shall occur or heavy equipment shall be allowed.*
>
> *A written request for inspection of the erosion/sediment controls shall be submitted to the Andover Conservation Commission, and a satisfactory inspection performed before any land-disturbing activity may commence. The Andover Conservation Commission or its agents may require other erosion/sediment controls as field conditions warrant. The erosion/sediment control devices shall be the Limit of Construction beyond which no earth-disturbing activity shall occur or heavy equipment shall be allowed. All erosion/sedimentation controls shall be maintained in a state of good repair.* ***The erosion/sedimentation control devices shall not be removed until the commission or its agent has reviewed and found satisfactory the stabilization of the disturbed area.****"*

9. When should they be removed, and how may they be disposed of?

Erosion/sediment controls should only be removed once a project is fully complete and the project has been formally closed out through a Satisfactory Completion of Work Certificate (RDA Permit) or Certificate of Compliance (Notice of Intent/Order of Conditions permit). This closeout process is initiated by the property owner/applicant/project proponent and is completed only by a vote of the Andover Conservation Commission.

The full removal and disposal of erosion/sediment control materials is recommended, as these materials left in place may be considered litter. If left in place too long, they may become harder to remove and/or continue to be unsightly to a property owner.

Silt fence should be pulled up and put in the trash. Plastic netting, landscape fabric, silt sacks, or other non-biodegradable materials should be placed in the trash as well. Wooden stakes, mulch, straw, and hay may be disposed of onsite to biodegrade with permission from the property owner.

10. Additional Information

Additional information about wetland permitting, wetland permits, etc. is available in the Wetland Permit Applicant's Guide, available here:

Wetland Permitting with the Andover Conservation Commission - How the Process Works - An Applicant's Guide

You are also welcome to call the Andover Conservation Department – (978) 623 8630 – or email (CDPConservation@andoverma.us) for advice if you have any questions or concerns.

Erosion/Sediment Controls – Vendor/Installer List

This is a partial list for reference/informational purposes only. The choice of vendor chosen or professional(s) retained for a given project is ultimately a property owner's or project proponent's decision only.

Middleton Supply, LLC. Erosion/sediment control materials and installation. https://middletonsupply.com/ https://middletonsupply.com/erosion-control 41 Elm Street, Salisbury, MA. (978) 777 1050	**Lowe's and/or Home Depot** Select erosion/sediment control materials. Silt fence, snow fence, stakes, straw wattles, jute mat, landscape fabric, erosion control matting. https://www.lowes.com/ https://www.homedepot.com/
MVK Landscaping & Silt Sock Erosion/sediment control materials and installation. https://www.mvklandscaping.com/erosion-control 250 Main Street, Rowley, MA. (978) 417 1861	**S&M Farms, Inc.** **Soini Erosion Control** https://www.sandmfarmsinc.com/ 419 Ashby West Road, Fitchburg, MA. (978) 345 0565
ProBark Erosion/sediment control materials and installation. http://www.probark.com/mulch-services/erosion-control/ 51 Kingston Road, Plaistow, NH. (603) 382 6860	**Essex County Co-op** Select erosion/sediment control materials. Hay bales, straw bales, stakes. https://essexcountycoop.com/ 146 South Main Street, Topsfield, MA. (978) 887 2300
Dodge Grain Select erosion/sediment control materials. Hay bales. https://www.dodgegrain.biz/ https://www.dodgegrain.biz/hay 59 N Broadway, Salem, NH. (603) 893 3739	**Filtrexx Northeast Systems** Select erosion/sediment control materials. Mulch socks, wattles. https://www.filtrexxns.com/shop/ 84 Daniel Plummer Road, Goffstown, NH. (603 621 9800)