



FACT SHEET 6.2

VEGETATED FILTER STRIPS

A vegetated or grass filter strip (sometimes referred to as a grass strip) is an area used to help slow down, filter and infiltrate stormwater runoff.

Unlike a vegetated buffer, which is used to provide an undisturbed natural protective area between your hobby farm and waterbody, filter strips are installed in specific locations around your hobby farm to help treat stormwater runoff.

Filter strips are more effective in treating sheet flow (a more even, slow moving, shallow flow that can occur on relatively flat, gently sloping land) compared to channelized flows (fast moving, narrow flow that can occur with natural swales, man-made ditches, or eroded gullies) and can be used in combination with other treatment techniques or as a stand-alone practice.

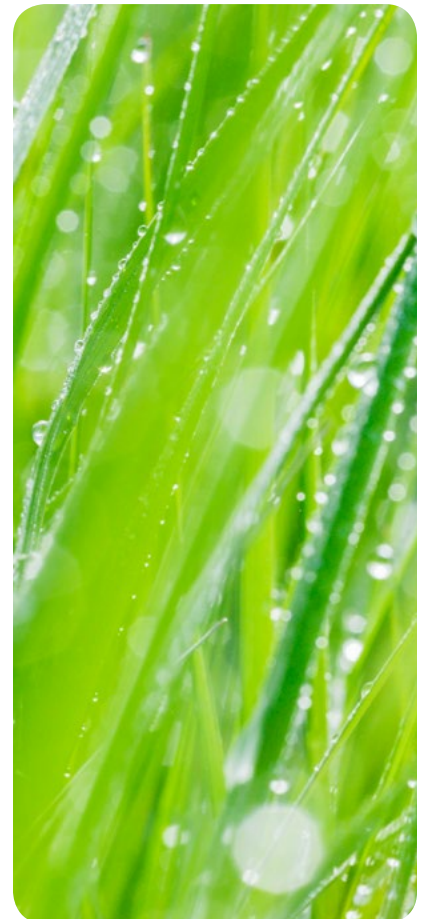
BENEFITS

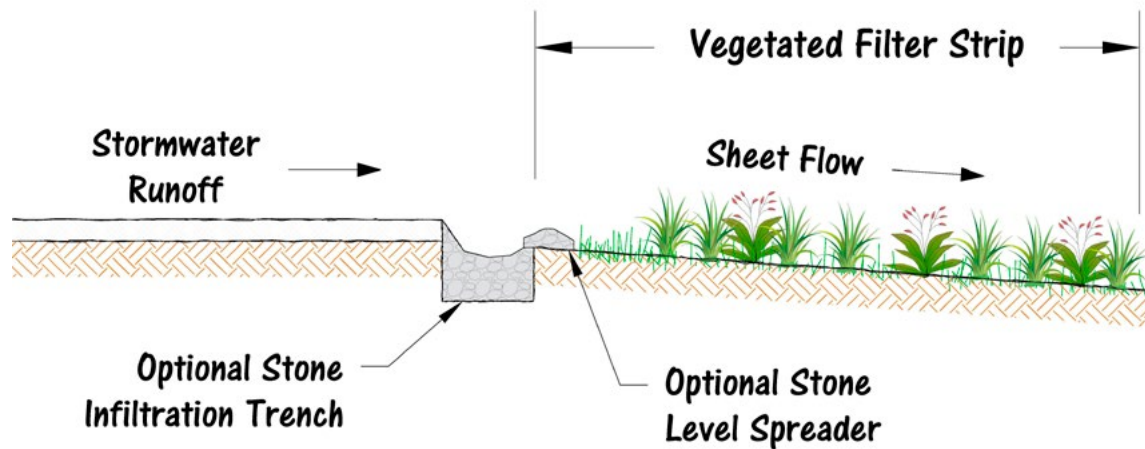
- Trap and filter out sediment and attached pollutants
- Slow down stormwater runoff helping to control erosion
- Promote infiltration of runoff into the soil
- Do not require a lot of space

Where Can Filter Strips be Used on Hobby Farms?

Filter strips can be used wherever precipitation, snow melt or stormwater runoff occur to help intercept and treat it. They are ideally used in areas that receive sheet flow, or water that is spread out (i.e., runoff from a small area of land). Vegetated filter strips are extremely useful on hobby farms where they can be constructed between a wetland or waterway and the following areas:

- Fields used to grow crops
- Pastures used for grazing
- Animal yards
- Barns and other structures
- Manure storage
- Compost areas
- Upland side of vegetated buffers
- Driveways and roadways
- Storm drainage systems





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DESIGN CONSIDERATIONS

LOCATION IS KEY WITH VEGETATED OR GRASS FILTER STRIPS AND SIMILAR TO VEGETATED BUFFERS, BIGGER IS OFTEN BETTER, BUT ANY SIZE FILTER STRIP CAN MAKE A WATER QUALITY IMPROVEMENT.

Length

The filter strip should extend the crop length of the area where stormwater runoff occurs. For example - if you are looking to filter stormwater runoff from crop fields, then the length of the filter strip should follow adjacent to as much of the field's downslope perimeter as possible.

Width

The width of your filter strip is largely going to depend on the amount of area you can dedicate to it. Filter strips 25-feet in width and more have been proven to provide substantial water quality benefits, however in many situations this is not always possible. It is recommended that hobby farmers assess the areas they would like to protect, determine the amount of area they are able to use and focus on maintaining a healthy, vegetated strip for maximum potential. Something is better than nothing, therefore any amount should be considered a worthwhile endeavor.

Vegetation

Grasses that can withstand periodic mowing and thrive in both wet and dry conditions should be used for vegetated filter strips. If seeding the area, be sure to protect it from any significant flow until the seed has germinated and grown to a point where it has filled in the strip and the risk of erosion has passed.

Slopes

Vegetated filter strips are more effective on gentle slopes where stormwater runoff can flow across the strip as sheet flow. At steeper slopes, stormwater runoff starts to concentrate, creating small rivulets or channels, and may either erode the filter strip or simply bypass it entirely. One way to help eliminate channelized flow and promote a slower, more continuous sheet flow across the filter strip is to install a level spreader. A level spreader can be anything (stone, gravel) that will slow and fan out the water before it reaches the filter strip.

INSTALLATION

The following are basic installation steps for vegetated filter strips:

Step 1

Mark your filter strip boundary with stakes, flags or paint.

Step 2

Clear any existing weeds, invasive species or other unwanted vegetation or obstructions.

Step 3

Ensure the existing soil is level, stable and suitable to plant or seed your selected plant species.

Step 4

The inlet or area where runoff enters your filter strip should be stabilized with plants or stone to both help avoid erosion from incoming water and ensure the flow is spread out to produce sheet flow as opposed to a channel of water.

Step 5

Plant your selected vegetation and be sure to water during the early weeks.

MANAGEMENT AND MAINTENANCE

- ✓ Inspect seasonally and after heavy rains to remove sediment and debris and to stabilize any eroded areas
- ✓ Ensure new plantings are growing and existing plants are healthy
- ✓ Seed or plant any bare spots
- ✓ Remove invasive species
- ✓ Mow at your highest height setting several times per year
- ✓ Do not use fertilizer or pesticides
- ✓ Keep farm animals and heavy equipment out

CAUTION!

Never use or store heavy equipment on vegetated filter strips or swales to avoid soil compaction. Compacted or tightly packed soil can severely limit runoff infiltration (your soil's ability to soak up water), eliminating one of the main functions of vegetated runoff practices.

HELPFUL LINKS

www.mapc.org/resources/low-impact-dev-toolkit/grass-filter-strips

www.mda.state.mn.us/protecting/conservation/practices/buffergrass.aspx

www.elibrary.dep.state.pa.us/dsweb/Get/Document-67997/6.4.9%20BMP%20Vegetated%20Filter%20Strip.pdf