



# Roof Water Diversion

## Mission Statement

To conserve and sustain the beneficial use of our natural resources through voluntary cooperative rural and urban partnerships, education, leadership, technical expertise, and financial assistance.

## Thurston Conservation District What TCD Can Do For You!

- \* Free soil testing with fertilizer and amendment recommendations.
- \* Site visits by technicians to help with low yielding pastures, weeds, mud and other production problems.
- \* Workshops on pasture management, manure management and other practical issues.
- \* Help you to develop a conservation plan for your property.
- \* Provide a Washington Conservation Corp crew for installing conservation practices including fencing, stream and wetland restoration.



Published by the Thurston Conservation District. Please feel free to call the District's office at (360) 754-3588 for more information or visit our website at: [www.thurstoncd.com](http://www.thurstoncd.com)



This brochure is written for people with rural acreages or small farms. It is geared to help you install a component or change a management habit that will benefit your farm operation, protect water quality, and protect the other resources on your property and in your community. Referred to as "Best Management Practices" or BMP's, they are widely accepted as beneficial to both small and large farms, in improving animal health and farm operation, and in protecting the environment and quality of life.

## Thurston Conservation District

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**One of the most common problems** on farms in western Washington is mud. Along with mud comes damp stalls, hoof disease, wet feed, hay, and bedding, and exercise areas which go unused in the winter because of poor drainage. One of the first things to consider when trying to deal with mud is; how are you handling the clean water that hits your outbuilding roofs. Is it contributing to wet conditions?



Did you know that on a 900 square foot barn, a one inch rainstorm produces 558 gallons of water! When this clean water runs through animal lots, it mixes with manure and instantly becomes waste water which then trickles down to the nearest stream. Now it's not only your problem, but also becomes a water quality problem for people living downstream, fish and wildlife, and eventually, for Puget Sound. With these basic steps, you can install gutters, downspouts and under ground outlets to prevent mud and keep 'clean water clean'.

## Installation

After removing old gutter (if applicable) check the condition of rafter ends and/or fascia board and replace if necessary.



- ◆ **Mark Gutter Slope** - Gutter should slope down 1" for every 70 feet toward the downspout. Mark slope on mounting surface 3/4" below shingles using a string or chalk line.
- ◆ **Gutter Assembly** - Assemble gutter sections using appropriate connectors according to manufacturers recommendations. Gutter parts and detailed installation instructions can be purchased at most home improvement warehouses. The most common gutter size is 5" K-style. The gutter size should be determined by the roof area.
- ◆ **Hang Gutters** - Attach gutter to fascia board or rafter ends along slope line every 3 to 4 feet with appropriate mounting devices.
- ◆ **Attach Downspout Elbows** - Fit one elbow tightly over gutter outlet. Attach second elbow to the first with a length of downspout that will allow second elbow to fit flush against building wall.
- ◆ **Attach the Downspout** - (Figure one downspout for every 1000 square feet of roof). Fit upper downspout end onto second elbow and fasten against the wall using two downspout bands. Add additional downspout material as needed to reach 6" above the ground surface. Downspouts should be protected from damage by inserting them through a five foot section of 6" diameter steel or PVC prior to placement.
- ◆ **Attach Underground Outlets** - Fit 4-6" flexible tubing around downspout end just above the ground surface. Connect pipe sections and bury in a trench roughly 2 feet underground, routing them to an appropriate outlet area. Slope outlet at a minimum of 6" drop for every 100 feet of pipe for adequate drainage. A rodent guard on outlet will stop burrowing animals.