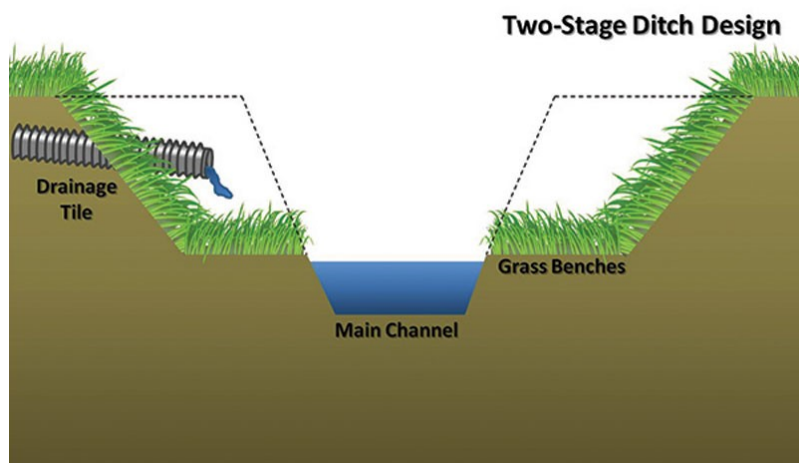
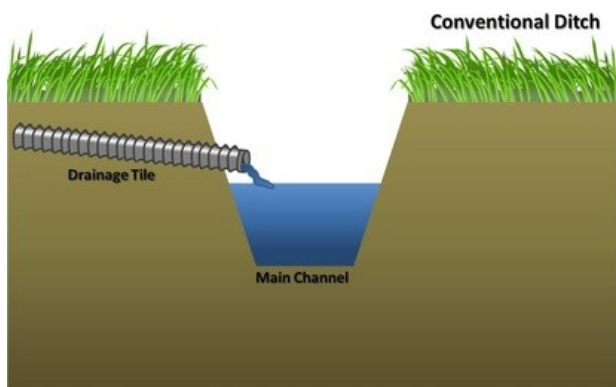


Two-Stage Ditches

Two-stage ditches widen the conventional channelized drainage ditch and include a floodplain bench. The floodplain bench provides floodplain storage and is vegetated which encourages nutrient removal.



Location

Two-stage ditches work in historically channelized drainage ditches. The modified ditch maintains drainage while reducing nutrient export and providing flood storage.

Footprint

Two-stage ditches are wider than conventional drainage ditches. No ground is usually taken out of production as most of the two-stage ditches are located in streams with an adjoining filter strip. A rule of thumb for two-stage ditches is that their top width is approximately 3x as wide as a conventional ditch.

Performance

The USDA-ARS has reported a 30% higher denitrification rate along the constructed floodplain benches compared to naturalized channels. Perhaps the biggest benefit of two-stage ditches would be additional storage to handle flood events. The added channel width allows up to a 200 year flood to be stored within the banks.

Dollars & Sense

\$50

Installation costs range from \$5-\$50 per linear ft according to tOSU Extension
