
Hillside Ditches for Steep Slopes

USDA NRCS Practice (423)



On sloping fields, use hillside ditches to keep valuable topsoil in its place, to slow water down, and to let it soak into the soil.

What is a hillside ditch?

Hillside ditches are shallow ditches built along the contour of hillside slopes where fields are planted. Pacific Island farmers use **hillside ditches** to protect their land from erosion.

Why build a hillside ditch?

Pacific Island farmers can benefit from using hillside ditches on their farm. Using this practice can:

- prevent the flow of water from accumulating as it moves downhill, eroding the land.
- help redirect small amounts of rain water into stable areas.
- break long slopes into shorter segments to intercept surface runoff.

To learn more about protecting your farm land from water damage, read ***Protecting Soil on Pacific Island Farms***.

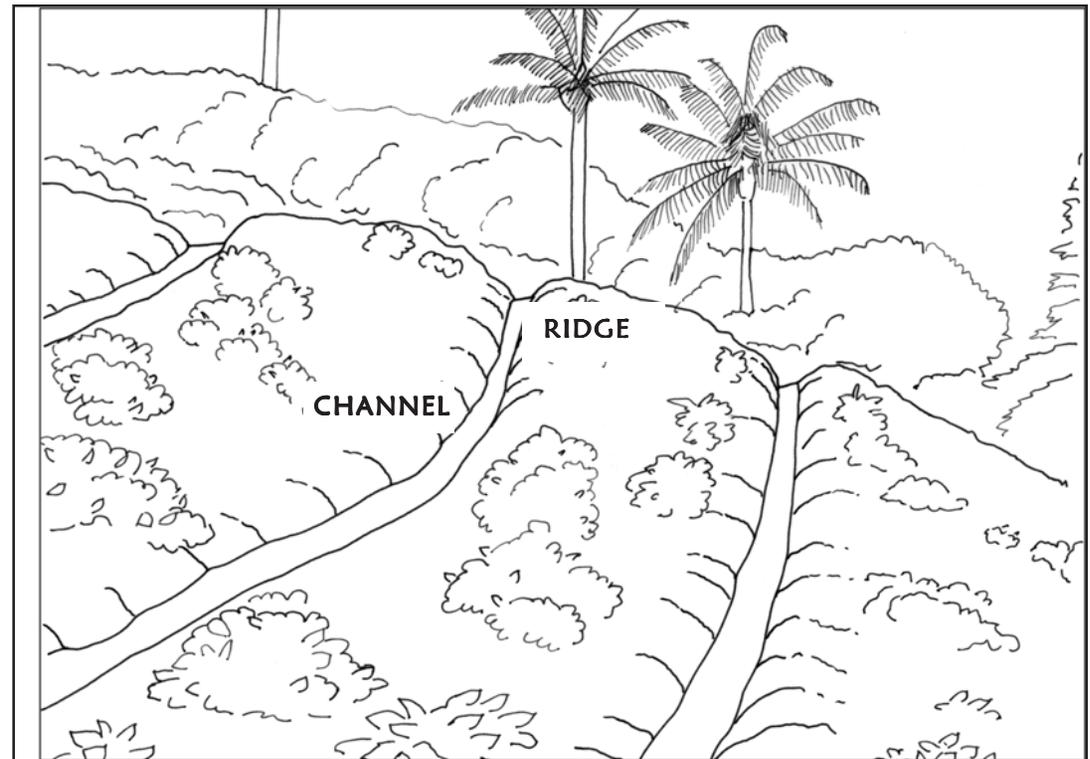
Where are hillside ditches used?

- In crop fields and orchards on steep slopes

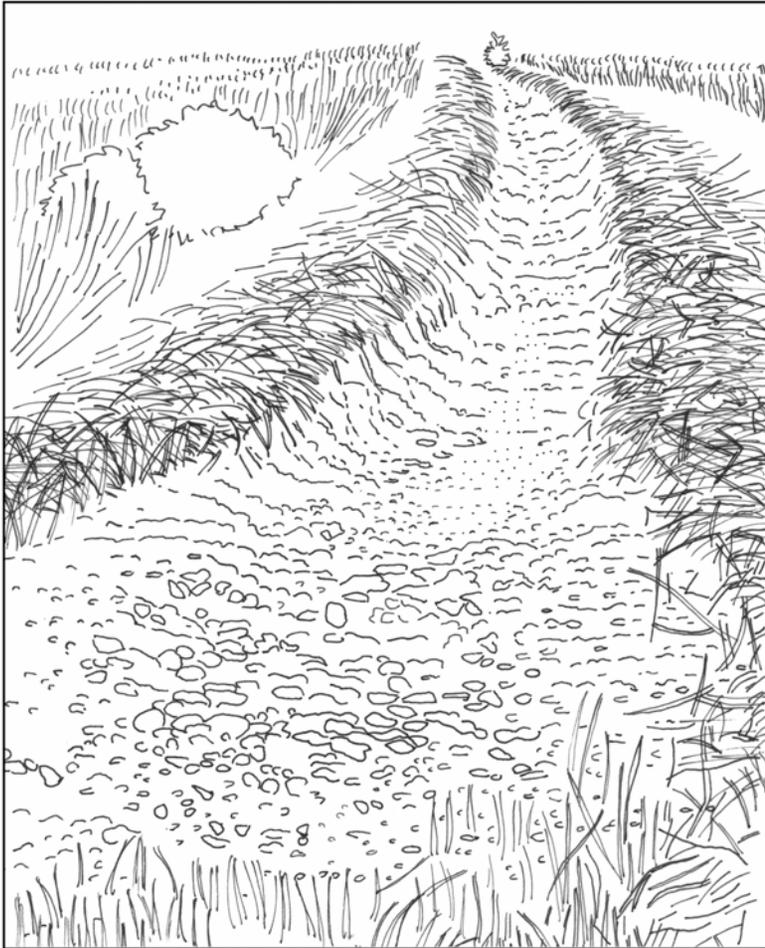
Plan for your hillside ditch system

Often it is difficult to get water to change direction on a slope. Build hillside ditches with both a dug out channel and a small supporting berm (ridge) on the lower side of the slope. This helps rain water stay in the ditch and not flow down hill causing damage in the field.

Spacing: Dig hillside ditches closer together on steeper slopes, about 25 feet apart (7.26 meters). As slopes become gentler, farmers can build them farther apart (35 or 40 feet / 11 to 12 meters). Hillside ditches shouldn't be more than 400 feet long (122 meters) and should be across the slope (no steeper than 2% slope in the channel at the very most).



Dig hillside ditches closer together on steeper slopes.



Be sure that the end of the ditch flows to a stable area with a cover of well-rooted plants or with gravel and rocks.

Ditch outlet: Be sure that the end of the ditch flows to a stable area with a cover of well-rooted plants or with gravel and rocks. Otherwise you can cause erosion in another area on the farm by outletting water in a weak area. You may need a grassed waterway at the ditch outlet.

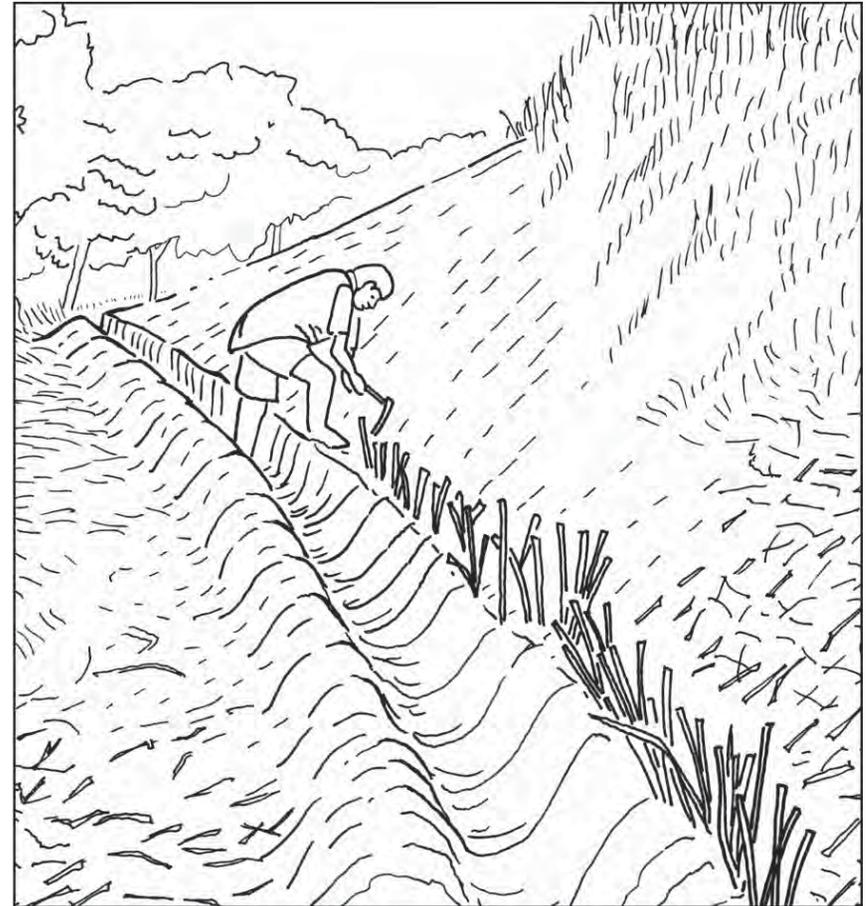
Check with USDA NRCS technical staff for recommendations on how deep and how wide to build the ditch.

For the best results, combine **hillside ditches** with other conservation practices:

- **Vegetative Barriers (601):** growing small strips of stiff plants across the slope
- **Contour Farming for Cropland (330):** carrying out farm operations across the slope

- **Contour Farming for Orchards (331):** carrying out farm operations across the slope
- **Residue Management (329):** leaving slash in the field for soil protection
- **Grassed Waterway (412):** a vegetated channel to carry water without erosion problems

For assistance to plan, design or construct a hillside ditch, contact your local USDA NRCS office. Additional information is available from your local USDA Service Center or at www.pb.nrcs.usda.gov and www.hi.nrcs.usda.gov.



For the best results, combine hillside ditches with vegetative barriers and other conservation practices.



The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720 2791 To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (800) 245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer. **Conservation System Guides for Pacific Basin Farmers and Ranchers** (fact sheets and PowerPoint programs) produced by the University of Hawaii, CTAHR NREM. Funding provided by USDA NRCS CIG Grant (Agreement No. 69-9251-5-682). PI: Dr. Carl Evensen. Authors/Instructional Designers: L.F. Castro, J. Smith. Illustrator: N. Hulbirt.

