

# Waterways

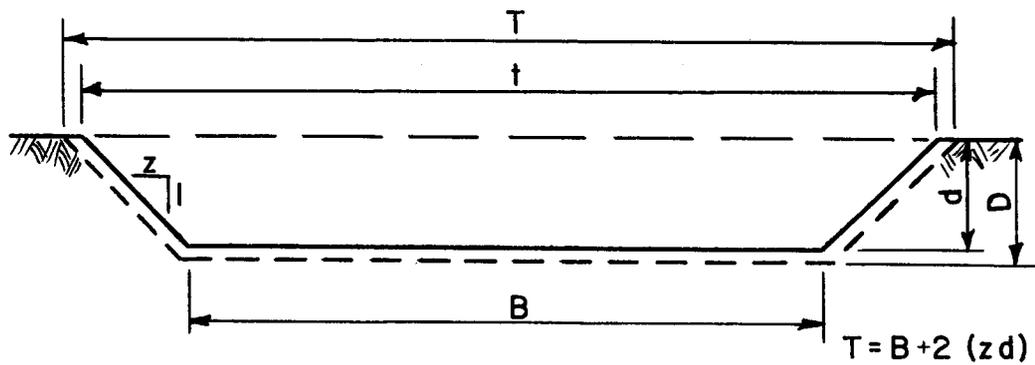
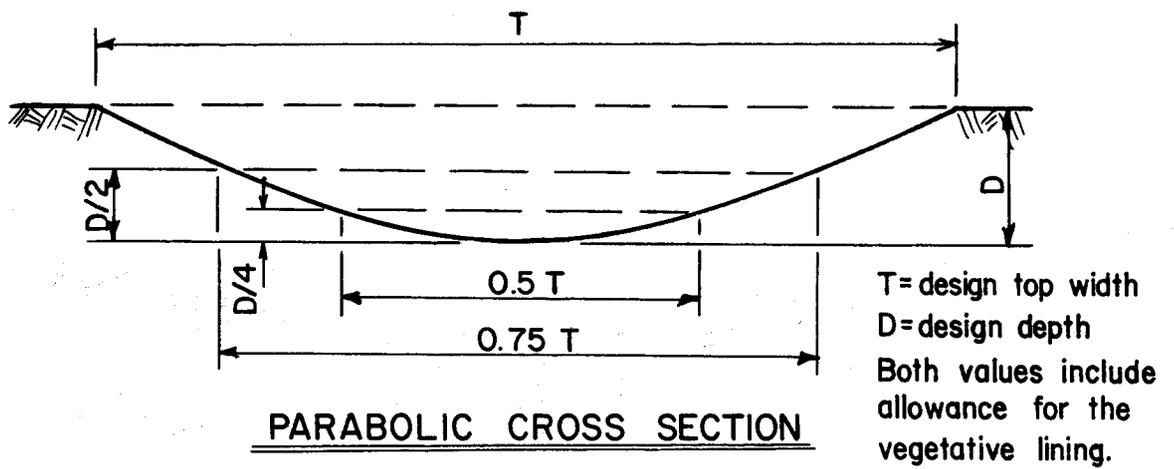
## General

Waterways are natural drainage depressions or constructed channels used to convey runoff to stable outlets. These measures are generally installed in areas where flow occurs only during storm periods or where the base flow is carried by an underground conduit. A common use is to

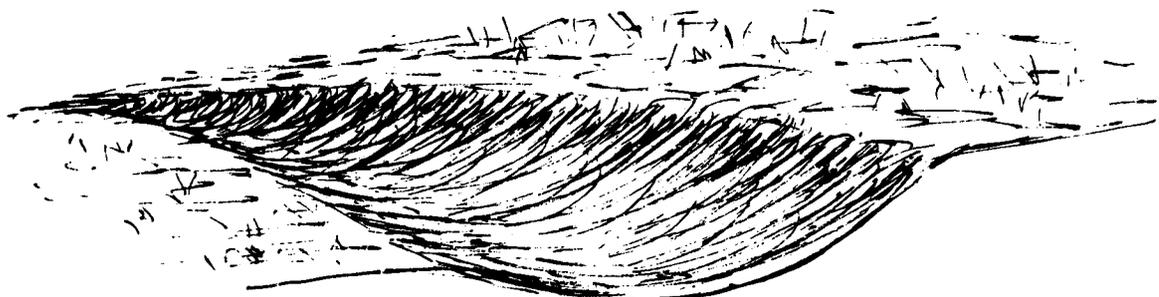
provide a safe outlet for diversions. They are designed to accommodate the expected runoff from a certain frequency storm without damage to the channel. Flow velocities determine the type of waterway lining needed, such as vegetative, concrete, riprap, or asphalt.



*A grass waterway starts with land shaping.*

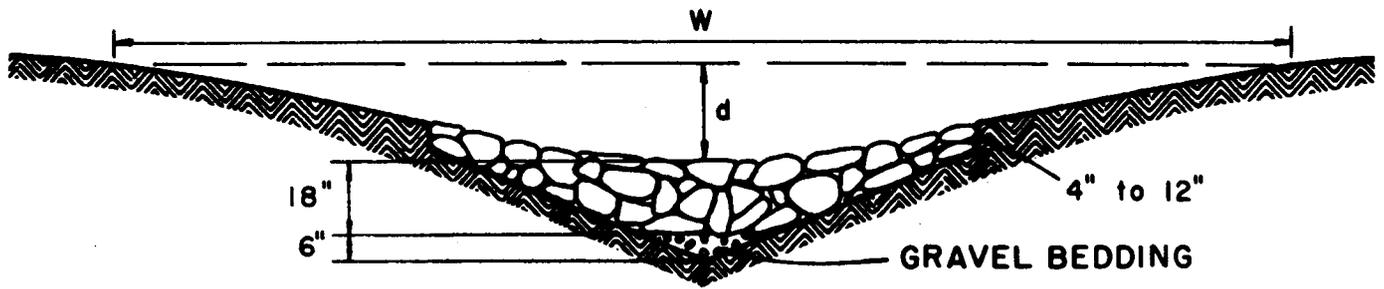


- B = design bottom width
- d = design depth
- D = design depth plus allowance for vegetative lining
- † = design top width
- T = design top width plus allowance for vegetative lining
- z = side slope ratio

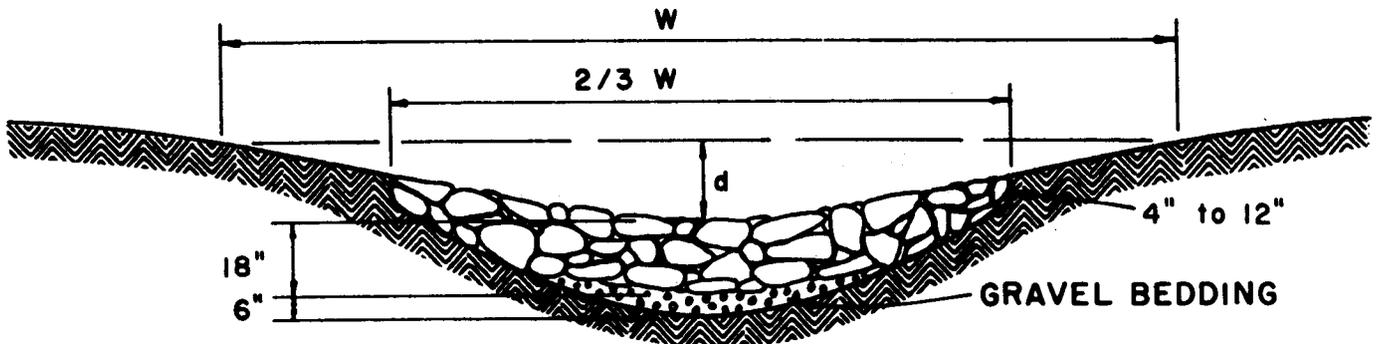


**PARABOLIC WATERWAY**

**Figure 6** — Typical waterway cross sections



Waterway with stone center drain  
V section shaped by motor patrol



Waterway with stone center drain  
Rounded section shaped by bulldozer

**Figure 7** — Waterway with stone center