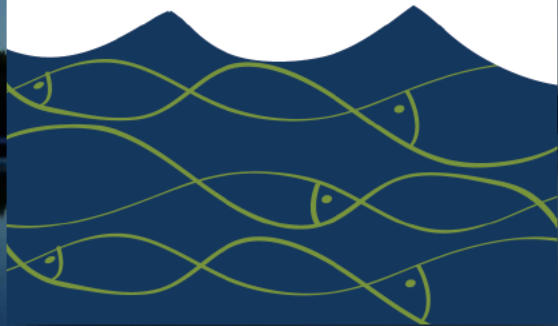


# Clean Water Works



## OPEN TOP CULVERTS

### Prevent erosion by diverting water off gravel roads and driveways

#### Where to use open top culverts?

An open top culvert, also called a box culvert, is primarily used on camp roads or driveways that receive minimal plowing in the winter. Because open top culverts collect, divert, and discharge water across a gravel road, they should only be used where it is fairly level and there is a stable or vegetated area to receive the water.

#### Why use open top culverts?

By getting water off the road, open top culverts reduce erosion of the road surface, while allowing vehicles to drive across the structure. Open top culverts are inexpensive to build and relatively easy to install using common hand tools.

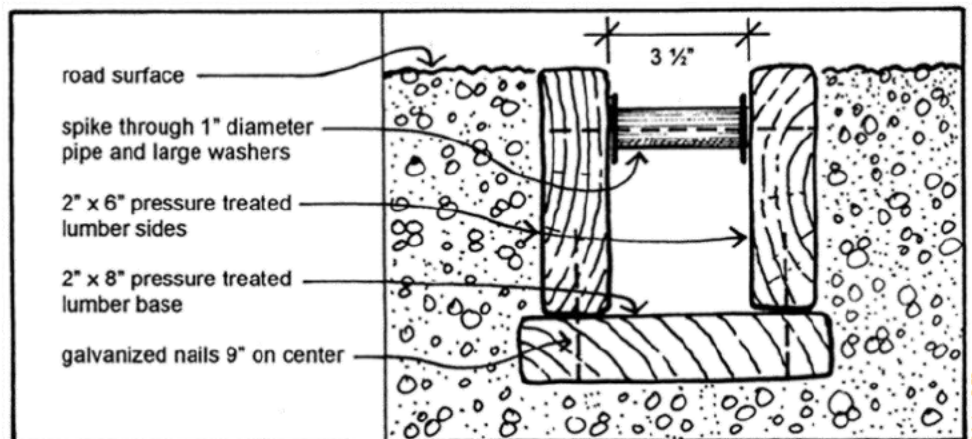
#### Installing open top culverts

Open-top culverts span the width of your road or driveway and extend slightly beyond the edge of the road. When digging the trench (roughly 9" deep by 8" wide) and purchasing the materials, remember that the culvert should be installed down slope at an approximate 30° angle across the road. The culvert must be installed flush with the surface of the road, otherwise, it will not function properly and will cause erosion.

Diverted water should flow into a stable area where it can soak into the ground. This area should be away from the road and water bodies. Directing water to a stone-lined outlet or vegetated area will reduce erosion at the culvert outlet.

#### Materials List

- Pressure treated lumber to span beyond the length of the road
  - Two 2" x 6" lengths
  - One 2" x 8" length
- Galvanized nails to secure the sides to the base of the culvert
  - Nails should be at least 3" long
  - Secure sides every 12-18" along culvert
- Spacers - 1" diameter pipe secured to sides of culvert with bolts, nuts, and washers to keep sides from collapsing
  - Spacers should be 3-4" long
  - Secure one spacer at each end of culvert and every 12-18" along culvert



30 Mile River Watershed Association



# OPEN TOP CULVERTS

## Maintaining open top culverts

The culvert should be cleaned regularly to keep it working properly. It is especially important to inspect and clean the culvert after storms when sediment accumulates in the culvert and at the outlet.

Remove any plow berms or other debris that could interfere with water flowing from the outlet.

Remove any sediment, gravel, leaves, and other debris in the culvert. A small hoe fits easily into the culvert and can be used for cleaning.

If the road or driveway must be plowed in the winter, you may want to:

1. Flag both ends of the culvert before snow falls to alert the plow driver to be cautious when plowing over the open top culvert.
2. Only plow across the open top culvert when the ground is frozen (avoid plowing in early winter or during spring thaw).
3. Inspect the open top culvert in the spring to ensure the culvert is still flush with the road surface and there is no sediment in the culvert or outlet.



Portland Water District



Acton Wakefield Watershed Alliance