



Operation & Maintenance Plan Underground Outlet (Code 620)

Expected Lifespan

The minimum expected lifespan of this practice is at least 20 years.

A properly operated and maintained **Underground Outlet** is an asset to your property. The purpose of this practice is to divert excess water from diversions, subsurface drains, surface drains or other drainage systems without causing erosion or flooding. The life of the practice can be assured and usually extended by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following are some requirements to help you develop a good operation and maintenance program.

Operation and Maintenance

1. Mark riser inlets and outlets so they are visible to prevent damage from farm equipment. Promptly repair or replace damaged components.
2. Limit traffic over pipelines to those areas that are designated for traffic loads. Avoid travel over pipeline by tillage equipment when the soil is saturated except at designated crossings.
3. Avoid tillage and subsoiling operations that may disturb the pipeline or bedding materials.
4. Monitor for settlement or erosion over the pipe and promptly repair if needed. Maintain the minimum design depth of cover over all pipe and appurtenances.
5. Monitor for signs of piping or soil displacement along the pipe. All settlement, sink holes, cave-ins or cracks in the soil adjacent to the pipeline or appurtenances should be investigated to determine the cause and immediately repaired.
6. Inspect inlet and outlet periodically and after every significant storm event. Repair as necessary.
7. Remove trash and debris accumulations or other obstructions around riser inlets to maintain their flow capacity. If equipped with an orifice plate, remove any debris that has accumulated and make sure the orifice plate is seated properly in the riser.
8. Remove any trash, debris, or other obstructions from around the outlet. Make sure that outlets are free flowing and rodent guards are in place.
9. Use fire resistant materials or otherwise protect outlets if burning is the prescribed method of weed control in outlet ditches.
10. Control tree and brush growth near perforated conduits by hand cutting, mowing, or applying chemicals. Avoid damaging grass with herbicide sprays. Always follow label instructions when applying chemicals.
11. Eradicate or otherwise remove all burrowing animals. Repair any damage caused by their activity.
12. Immediately repair any vandalism, vehicular or livestock damage.

Operation, Maintenance and Inspection Costs

1. It is estimated that the annual time to routinely inspect and make minor repairs to your Underground Outlet will be:
 - a. Inspection = 2 hours/year/1000 feet
 - b. Minor Repairs = 2 hours/year/1000 feet
 - c. Major repairs to damage caused by major storm event will require extra time and materials.
2. Most minor repairs can be made by the operator using basic hand tools. However, major repairs to damaged or plugged tile line may require hiring a professional experienced in these repairs and improvements.

Specific Site Requirements