

# Repair Made List for 2016 Culvert Cost

List order is based on:  
 1) Most likely repair type  
 2) Repair types that are similar  
 3) More important or expensive type  
 4) Cleaning types and unlikely items towards bottom of list

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Repair Made:	Description of Repair Made:
Trench New Pipe	Install a new pipe by trenching through the road, then fill and compact the trench. May re-pave the road. Usually includes pipe removal. Repaired Length = length of new pipe.
Slipline	Slide a pipe-like liner into the culvert then grout the void between the host pipe and the liner. May install new aprons. Repaired Length = length of slipliner.
Replace Aprons	Remove old aprons and place new ones, and maybe replace a few pipe sections. Repaired Length = 0 (if aprons only) or the length of the pipe sections that are reset or replaced.
Reset	Move aprons and maybe pipe sections back into place to fix joint separations or separated apron. The repair includes filling, compacting bedding and adding ties. May install new pipe sections (but not aprons) with Reset. Repaired Length = 0 (if aprons only) or is the length of the pipe sections that are reset or replaced. (If sections don't move, read Joint Repair).
Extension	Lengthen the existing pipe by adding pipe sections and reset or replace aprons, fill and compact and sometimes pave. Repaired Length = length of pipe sections added.
Joint Repair	Fix broken or separated joints by installing internal bands or sleeve, filling a gap in the joint, or covering joint from the outside of the pipe -- without moving the pipe itself. May include filling voids in road bed. Repaired Length = 0. <b>Please record the number of joints fixed in the Comments.</b>
Hole Repair	Patch isolated holes in the pipe wall and sometimes includes filling voids in road bed. Repaired Length = length of hole repairs in feet. (See Paved Invert for extensive invert repairs).
Paved Invert	Fix the invert of the pipe by pouring, troweling or covering the invert with concrete or other material, usually in a larger metal pipe (accessible for interior repair). May also include filling voids in road bed. Repaired Length = length of paved invert.
Fill Voids	Replace the road bed material that has washed out from around the pipe, but the pipe itself is not repaired. Road fill material can be grout, lightweight cellular grout or chemical expanding foam grout, hot mix, millings or other fill. Repaired Length = estimate the length of void filled along the pipe.
Abandon Only	Plug and abandon existing pipe but NOT install a pipe at same location. Repaired Length= 0
Remove Only	Remove existing pipe but NOT install a pipe at same location. Includes road repair. Repaired Length = 0
Other	If the repair is not listed, use "Other" and describe the repair in the comments. Repaired Length = length of pipe repaired.
None*	If it's not a repair and not on the list but important enough to record, then use "None" and describe the task in comments. Repaired Length is probably 0. Use "None" as Repair Made for Pipe Videos .
Cleaning*	Remove dirt or debris from inside a pipe or within 5 feet of an apron. Minor cleaning is 4 hours or less of labor. Major cleaning includes more than 4 hours labor or the use of a jetter or major equipment. Repaired Length = length of pipe cleaned.
Ditch Cleaning*	Remove dirt or debris from a ditch. Repaired Length = length of ditch cleaned.
Ice Removal*	Remove ice to prevent ice or water on roadway. Repaired Length = length of removed ice.
Beavers*	Remove or discourage beavers or beaver dams or other critters. Includes exploding dams and trapping contracts. Repaired Length = 0
Jack	Jacking is not used by Maintenance as a method to install pipes by pounding them through the roadway. It is omitted from the 2015 Culvert Cost list of Repair Made.
Cured In-Place Pipe	Cured In Place Pipe is not used by Maintenance as a method to line pipes with a resin-filled tubular liner. It is omitted from the 2015 Culvert Cost list of Repair Made.

Notes:

\* Cleaning-related items and None (not a repair) on the Repair Made list are optional to record in the Culvert Cost app.

Each District can choose whether or not to record Cleaning, Ditch Cleaning, Ice Removal, Beavers and None.

1) **Repairs of Culverts** are required to be entered in the Culvert Cost app.

2) A Culvert has 2 open ends and carries water under a roadway embankment.

3) "Culvert" does NOT include storm drain, flumes, draintile, ditches, ponds, erosion, or infiltration areas).

4) Cleaning is included as part of many Repair Made types.