PRESSURE GROUTING OF VOIDS

Metal Culvert Overview Flowchart
Structural Defects Flowchart (Metal)
Bedding Deficiencies Flowchart (Metal)
Hydraulic Capacity Flowchart (Metal)

1. DESCRIPTION

Pressure grouting is routinely used to fill voids in the soil behind the sides of culverts caused by piping or exfiltration. Grouting is usually carried out from inside culvert: with two grout tubes in place (one directed to the bottom of the void and the other to the top of void), the grout is pumped through the bottom grout tube until it fills the void and starts to flow out through the upper tube. The voids can sometimes be filled from the roadway surface providing they can be accurately located. Portland cement based grouts and mortars, as well as chemical and foaming grouts can be used (Balinger and Drake, 1995). Pumping shotcrete is an option to fill large voids under culverts.

2. REFERENCES

Ballinger, C.A., and P.G. Drake, 1995. *Culvert Repair Practices Manual* , Vol 1 & Vol 2 (Appendices), FHWA-RD-95-089, May 1995, US Department of Transportation, Federal Highway Administration (FHWA), McLean, VA, 330p & 321p

Metal Culvert Overview Flowchart
Structural Defects Flowchart (Metal)
Bedding Deficiencies Flowchart (Metal)
Hydraulic Capacity Flowchart (Metal)