

SPECIAL PROVISION FOR GROUTING HOST PIPE BEFORE LINING

Description

This Special Provision includes specifications for filling voids below and around a culvert that have been found during cleaning and inspection, or are apparent by inverts perforated by corrosion either mid-pipe or at the ends.

Wherever pipe liners are used in pipes of sufficient size to gain access, fill voids before installing pipe liners.

Materials

Refer to Section 1003 of Standard Specifications

Construction Methods

Prevent the flow of cementitious material and water from construction activities into waterways and drainage facilities. Follow provisions of the NCDOT Best Management Practices for Construction and Maintenance Activities manual.

If voids are found, install grout ports as ordered. Install valves or removable plugs at grout ports. Probe at each grout port location. The probe must be at least 4 feet long, fit through the grout ports, and be rigid enough to sense probe refusal. Grout ports must be watertight. If authorized, you may screw grout ports in place or attach them by other methods. Do not weld grout ports to galvanized surfaces.

Where practicable, pump from downstream / downhill end of pipe toward upstream / uphill end of pipe. Pump grout into voids until it appears that all water and air has been ejected. Where possible, pump until grout escapes from adjacent, unplugged ports. Plug grout ports or close port valves as soon as pumping the grout ceases.

Multiple grouting stages may be necessary to 1) close invert, annular, or joint perforations, and 2) inject grout into remaining voids surrounding pipe.

Block or sandbag culvert ends to retain grout during grouting procedure. Remove sandbags or blockages after curing.

Finish grout that surcharges from perforations or cracks to a smooth surface.

The maximum injection pressure at the nozzle must not exceed 5 psi for fluid, unsanded grout mix. Pressure shall be monitored by a pressure gauge.

Monitor the culvert for deformation and cracks. If cracking occurs in a concrete culvert or lining, reduce the grout injection pressure. If deformation of the existing structure exceeds 1/2 inch at any location, reduce the injection pressure. Grouting in lifts may be required to prevent deformation.

Repair any permanent deformations or cracks resulting from your grouting work. Such work is incidental to grouting.

Measurement and Payment

Record the quantity of slurry cement backfill that is installed and submit this quantity. No payment will be made for slurry cement backfill that leaks through to the inside of the culvert. No payment will be made for slurry cement backfill that is wasted, disposed of, or remaining on hand after completion of the work.

Payment will be made under:

Pay Item

Host Pipe Grouting

Pay Unit

Cubic Yard