



Crossing Innovation – Infiltrator Arch

[FIN - An information sharing network for Maine forest landowners, fisheries agencies and NGO's](#)

Foresters and contractors working in the field often come up with innovative solutions to stream crossing problems. FIN “Crossing Innovation” information sheets highlight some of these creative solutions. Landowners should evaluate the merits of these designs for their own particular use. FIN does not in anyway guarantee the performance of these crossings.

Description

The infiltrator arch uses storm water infiltrator chambers, normally meant for storing stormwater runoff under parking lots, as a bottomless stream crossing structure.

Specifications

These chambers are made of plastic and come in several sizes, the brand we used was Stormtech. The chambers we used have a span of about 40” and a cross sectional area of approximately 7 square feet making them equivalent to a 36” round culvert. The chambers come in 7’ sections and are light enough to be carried by two people and can be carried in a standard pickup. Each section snaps to the next one forming a continuous arch pipe of any desired length.

Installation

We installed two structures on low volume roads, one in Dyer Brook and one in Lakeville PLT. One arch was placed on 4”x8” hemlock footers and the second was set on precast concrete pads left over from another project. The entire pipe was covered with geotextile fabric before backfilling. Backfill was thoroughly compacted with a plate compactor to a cover depth of about 1.5’. Excellent compaction of the backfill is critical on this structure.

Cost

In 2009 each 7’ section cost \$248.00; we used four sections for a total pipe cost of \$992.00. Installation cost \$2,500 for a total project cost of roughly \$3,500.

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The Fisheries Improvement Network is a cooperative effort of the Maine Sustainable Forestry Initiative, Maine Forest Service, Maine Department of Inland Fisheries and Wildlife, Maine Department of Marine Resources and the US Fish and Wildlife Service

