

HR-370 Pipe Rehabilitation With Polyethylene Pipe Liners

KEY WORDS: Culvert, Pipe Rehabilitation, Plastic Pipe, Polyethylene Liner

Slip Lining

ABSTRACT

Corroded, deteriorated, misaligned, and distorted drainage pipes can cause a serious threat to a roadway. Normal practice is to remove and replace the damaged drainage structure. An alternative method of rehabilitating these structures is to slip line them with a polyethylene liner.

Twelve drainage structures were slip lined with polyethylene liners during 1994 in Iowa. Two types of liners installed were "Culvert Renew" and "Snap-Tite". It was found that the liners could be easily installed by most highway, county, and city maintenance departments. The liners restore the flow and increase the service life of the original drainage structure. The liners were found to be cost competitive with the removal and replacement of the existing drainage structure. Slip lining has the largest economic benefit when the roadway is paved, the culvert is under a deep fill, or traffic volumes are high. The annular space between the original pipe and the liner was filled with flowable mortar. Care should be taken to properly brace and grout the annular space between the liner and the culvert.