



## STANDARD OPERATING PROCEDURE TO ABANDON AND SEAL AN EXISTING PIPE



Revised 10 October 2019

Abandonment and sealing of pipes requires a USACE review and appropriate project plans and specifications are submitted with the request. In addition to the normal Levee Safety Team review, USACE Hydraulics and Hydrology staff may review these alterations to ensure that any permanent pipe abandonment does not create any adverse flooding conditions within the leveed area.

Procedures and specifications to abandon in place an existing pipe shall be as follows: The existing pipe shall be cleaned (or in a clean condition) and then video inspected to determine its overall condition prior to filling. Completely fill pipe with a shrinkage-compensating grout. Cleaning the pipe maximizes the potential for a good bond between the host pipe and grout. *Small quantity* applications shall meet the requirements of ASTM C-1107 such as SIKA 212, Edoco Grout or approved equal (see information below for the Specs on these products). *Large quantity* applications shall be filled using a grout with a minimum 300 psi compressive strength with a shrinkage compensating admixture such as SIKA Intraplast N, BASF Tetraguard AS20, or approved equal (see below). The pipe shall be completely filled and the quantity of grout required to fill the pipe shall be determined in advance to equal the volume of the inside of the pipe for its full length between the inlet and outlet headwalls. Filling of the pipe should be monitored and inspected to ensure the pipe has been completely filled for its entire length.

Another option for abandon and sealing a pipe is to use a cellular grout. This would be similar to the grout used to fill the annular space between the host and a liner pipe during a slip-line process. It should have a compressive strength of 300 psi. A typical mix for cellular grout is:

Cement	9 CF
Fly Ash	0 CF
Water	15.5 CF
Sand	2.8 CF
Foam	45 CF

Or:

SikaGrout 212 Grout:

<http://www.sikaconstruction.com/tds-cpd-SikaGrout212-us.pdf>

Sika Intraplast-N:

<http://www.sika.ca/con-tds-intraplastn-ca.pdf>

BASF Tetraguard AS 20:

[http://www.basf-admixtures.com/en/products/shrinkage\\_reducing/tetraguard\\_as20/Pages/default.aspx](http://www.basf-admixtures.com/en/products/shrinkage_reducing/tetraguard_as20/Pages/default.aspx)

Edoco Grout:

[http://67.192.65.138/weavecmsresources//c\\_TechData\\_sheets/TDS\\_Edoco2/E\\_NFNSGrout\\_TDS.pdf](http://67.192.65.138/weavecmsresources//c_TechData_sheets/TDS_Edoco2/E_NFNSGrout_TDS.pdf)

### **Documentation**

Documentation for abandoning and sealing an existing pipe shall be submitted to the USACE Huntington District upon completion of the abandonment. That documentation shall include the As-Built stationing, location coordinates, method used for abandonment, details of the abandonment, photos during and at the end of the work, and a map showing the pipe location.