

ENGINEERING DIRECTIVES AND STANDARDS

Volume	Chapter	Section	Directive Number	Effective Date
II	2	1	13	10/26/2005

SUBJECT: PROCEDURE FOR QUALITY ASSURANCE, FILL HEIGHTS AND INSTALLATION REQUIREMENTS FOR PLASTIC PIPE USED IN CROSS DRAINS, SIDE DRAINS AND STORM DRAINS

- 1. PURPOSE:** The purpose of this directive is to establish uniform requirements for the use of plastic pipe in DOTD projects and the installation requirements of the pipe.
- 2. SCOPE:** This directive establishes the approval process of the basic materials for which plastic pipe will be used on Louisiana DOTD projects as well as specific installation details. Installation requirements are as specified by manufacturers as modified by this EDSM and any special provisions applicable.
 - A. LOCATION AND TYPES**
 - 1) For location requirements, see EDSM II.2.1.1 (Table 1).
 - 2) All plastic pipe must be in accordance with current LA DOTD Standard Specifications and on the current LA DOTD Qualified Products List.
 - B. FILL HEIGHT AND COVER REQUIREMENTS**
 - 1) The minimum cover for all plastic pipe types and sizes is 12 inches.
 - 2) Minimum cover is measured from top of pipe to the top of the subgrade. Minimum cover is adequate for H-20 loading when pavement is in place. During construction, when heavy loads may be driven over or close to a buried structure, it is the contractor's responsibility to provide the additional cover needed to protect the pipe.
 - 3) Maximum fill height is measured from top of pipe to top of surfacing.
 - 4) Maximum fill height for the following plastic types is:
 - a) CPEPDW – Maximum fill height for 12" – 48" sized pipe: 5 feet.
 - b) RPVCP – Maximum fill height for 12" – 48" sized pipe: 15 feet.
 - C. QUALITY ASSURANCE**
 - 1) The plastic pipe manufacturer shall furnish DOTD with all product literature and cross sectional properties.
 - 2) It will be the responsibility of the DOTD Materials Engineer Administrator to establish qualification procedures for all plastic pipe products utilizing AASHTO, ASTM or DOTD Test Procedures.
 - 3) The DOTD Materials Engineer Administrator will review all applicable specifications to ensure that resin classification is appropriate to the particular materials.
 - 4) The DOTD Materials Engineer Administrator will establish sampling and testing criteria for the finished product.
 - 5) The DOTD Materials Engineer Administrator and the Construction and Fabrication Engineer will establish a procedure for identifying tested pipe. The procedure and identifying markings will be distributed to all Construction and District personnel.
 - 6) Pipe joints to be either Type 1, Type 2 or Type 3 as per EDSM II.2.1.1.

- 7) The structural design of all plastic pipe shall be according to AASHTO Standard Specifications for Highway Bridges, Soil-Thermoplastic Pipe Interaction Systems except where the LA DOTD specifications exceed them.

D. QUALIFIED PRODUCTS LIST

The DOTD Materials Engineer Administrator upon completion of Section B – Quality Assurance, above, will establish a Qualified Products List (QPL) for plastic pipe that lists the manufacturer, product trade name or designation, approved sizes and approved joints.

E. JOB SITE

Storage, hauling and handling at the job site shall be in accordance with the manufacturer's recommendations unless amended by DOTD specifications.

F. INSTALLATION

Laying of pipe and backfill shall be in accordance with the specifications or manufacturer's recommendations.

- 1) The inspection of the pipe will be governed by the plans and specifications.
- 2) Bedding and backfill for all plastic pipe shall be according to the standard specifications and standard plan BM-01. Obtaining the backfill shall be the sole responsibility of the contractor unless otherwise provided for in the contract documents.
- 3) Installed pipe that has deformed beyond acceptable limits shall be removed and replaced or relayed using better procedures. (Relaying will be permitted only if the pipe returns to the proper shape upon removal and no other damage or cracks are evident).

3. **OTHER ISSUANCES AFFECTED:** All directives, memorandums or instructions issued heretofore in conflict with this memorandum are hereby rescinded.
4. **EFFECTIVE DATE:** This policy becomes effective this date and will be implemented on all projects except those where the use of this EDSM would result in scheduling delays.

WILLIAM H. TEMPLE
CHIEF ENGINEER