

City of San Diego
Engineering & Capital Projects Technical Bulletin 0901

DATE: September 2009

SUBJECT: **High Density Polyethylene (HDPE) Pipe Design Criteria**

PURPOSE: The purpose of this bulletin is to provide design parameters for the use of gravity High Density Polyethylene (HDPE) pipe in the City of San Diego.

HDPE storm drain systems shall be constructed per the City's standard specifications i.e., The APWA Standard Specifications for Public Works Construction (The "Greenbook"), the City Supplement, and the following design criteria:

1. Controlled Low Strength Material (CLSM) bedding (to 12" over pipe crown) shall be specified in public rights of way at all time and where the pipe crosses existing or planned utility pipelines or conduits.
2. The CLSM shall be as follows:
 - a. 190-E-400 in residential and local streets.
 - b. 380-E-800 in commercial, industrial areas, and major or arterial streets.
3. The trench width shall be a minimum of 12" plus the pipe outside diameter in accordance with Caltrans Standard Specifications, Section 19-3.062 for cement slurry backfill.
4. Maximum pipe cover shall not exceed the amount specified in the current Caltrans Design Manual.
5. The Manning "n" factor shall be 0.012.
6. Alternative material e.g., crushed rock may be submitted in lieu of CLSM for the City's approval during design when the pipeline meeting these criteria is located in local streets in single family residential areas and outside of any utility corridors, and subject to the following:
 - a. Crushed rock (San Diego County Type C or ASTM D2321 Class I compacted to a minimum 90% SPD).
 - b. Crushed rock shall be placed in accordance with Regional Standard Drawing No. D-60 Type C rock envelope to 12" over the pipe crown.

For those conditions where the engineering calculations and investigations warrant deviations from the City's standard specifications, the appropriate calculations and documentation along with Deviation From Standards form (attached) must be completed and submitted for approval.

CITY OF SAN DIEGO
ENGINEERING & CAPITAL PROJECTS DEPARTMENT
DEVIATION FROM STANDARDS

WBS/WO NUMBER(S): _____

PROJECT DESCRIPTION/LOCATION: _____

ENGINEER OF WORK: _____ RCE NO. _____

EXP. DATE: _____

DESCRIPTION OF DEVIATION (identify the standard that the Engineer is deviating from):

REASON FOR DEVIATION:

MITIGATION MEASURES FOR DEVIATION:

REVIEWED BY: _____ DATE: _____

SENIOR DESIGN ENGINEER

APPROVED BY
DEPUTY CITY ENGINEER: _____ DATE: _____

DEPUTY DIRECTOR: _____ DATE: _____

NOTES:

- Keep a copy in the Project files.
- Send a copy to PITS, Standards & QC Section.
- Standards include Standard Specifications, Standard Drawing, Design Guidelines, and applicable Codes.