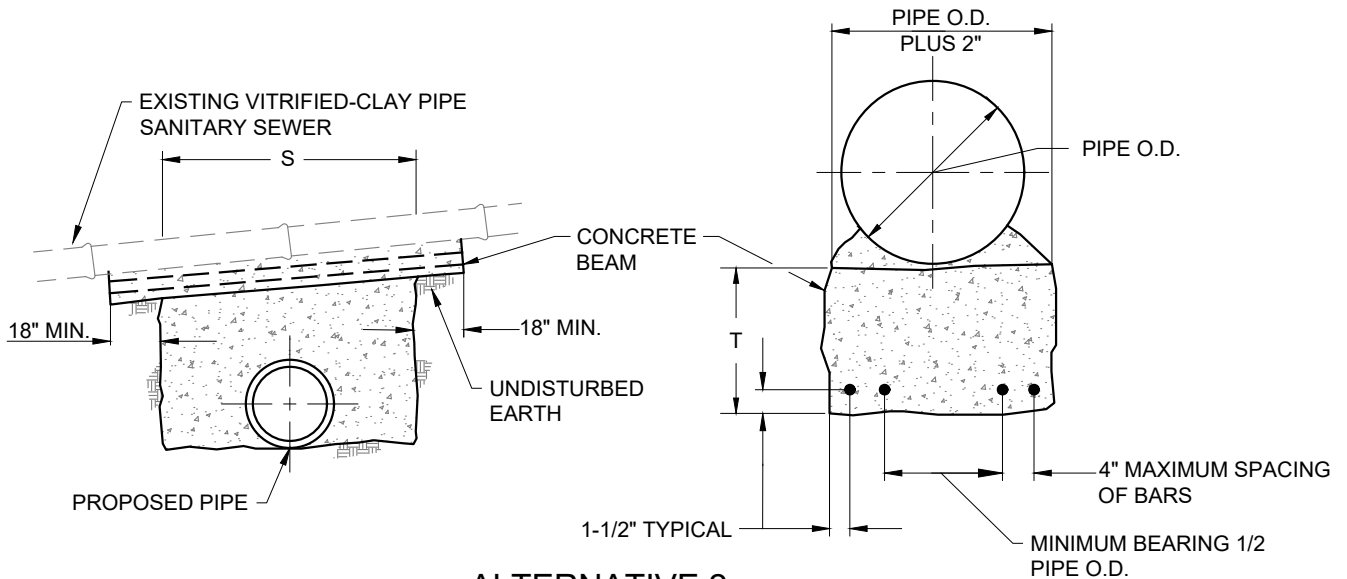


**ALTERNATIVE 1**  
CONCRETE SUPPORT WALL



**ALTERNATIVE 2**  
CONCRETE BEAM

**NOTES:**

1. SUPPORT WALL SHALL HAVE A FIRM BEARING ON THE SUBGRADE AND AGAINST THE SIDES OF THE EXCAVATION.
2. WALL SHALL BE AT LEAST 2" FREE AND CLEAR OF ANY UTILITY SUBSTRUCTURE.
3. WHEN DIRECTED BY LBWD, THE CONTRACTOR SHALL PROVIDE SUITABLE OPENING IN THE WALL TO PREVENT UNEQUAL PRESSURE RESULTING FROM FLOODING THE BACKFILL. THE VOLUME OF THE PIERCED OPENING SHALL NOT EXCEED 1/3 THE VOLUME OF THE SUPPORTING WALL.
4. A 1 PART SAND / 2 PART CEMENT MIX GROUT SHALL BE PLACED BETWEEN THE TOP OF THE BEAM AND BOTTOM OF THE PIPE FOR BEARING.

DIMENSIONS OF REINFORCED CONCRETE BEAM				
DEPTH OF COVER				
S (FEET)	0 FEET TO 8 FEET		8 FOOT-1 INCH TO 16 FEET	
	T (INCHES)	BAR NO	T (INCHES)	BAR NO
4	8	4	8	4
5	8	4	9	5

**SEWER MAIN SUPPORT**

**WDS - 510**



**Long Beach Water**  
Exceptional Water • Exceptional Service

RECOMMENDED

*Robert Johnson*

DIRECTOR OF ENGINEERING

APPROVED

*Debra Paul*

DEPUTY GENERAL MANAGER / CHIEF ENGINEER

DATE: 02-2020

SCALE: N.T.S.

SHEET 1 OF 1