



## **ADDITIONAL NOTES FOR CAST-IN-PLACE PIPE CONSTRUCTION**

1. Concrete mix designs shall be submitted by Contractor for approval prior to start of construction.
2. Contractor shall allow Inspector into pipe while under construction and rod for wall thickness at a minimum of 25 C.Y. of the pour.
3. A minimum 6 sack per cubic yard design mix shall be used, the compressive strength of the concrete (fc) at 28 days shall be at least 4,000 psi, and the modulus of rupture shall be at least 550 psi. For velocities greater than 10 ft./sec. but not greater than 20 ft./sec., the compressive strength shall be 5,000 psi. Compressive strengths shall be noted on the drawings.
4. Pipe thickness for flows having velocities equal to or less than 10 ft./sec. shall comply with the requirements as set forth in the Cast-In-Place Pipe Design Standards. For velocities greater than 10 ft./sec. but not more than 20 ft./sec., a 140 degree segment of invert shall be thickened 2 inches in wall thickness as "sacrificial concrete." Increases in standard wall thickness shall be noted on the drawings.
5. Design flow velocities greater than 20 ft./sec. will not be allowed unless an exception is granted by the Engineer.
6. Cast-in-place concrete pipe, which is to be maintained by the County or District, shall not be placed except in the presence of the appropriate agency Inspector.
7. When cast-in-place pipe is specified as an alternative to reinforced concrete pipe, Transition Structure No. 3 shall replace Junction Structure No. 2. No changes need to be made for Junction Structure No. 4.
8. At the end of all pours and at the end of each working day, the Contractor shall install #4 dowels 24" long 12" into the last pour at 12" around the circumference of cast-in-place pipe.