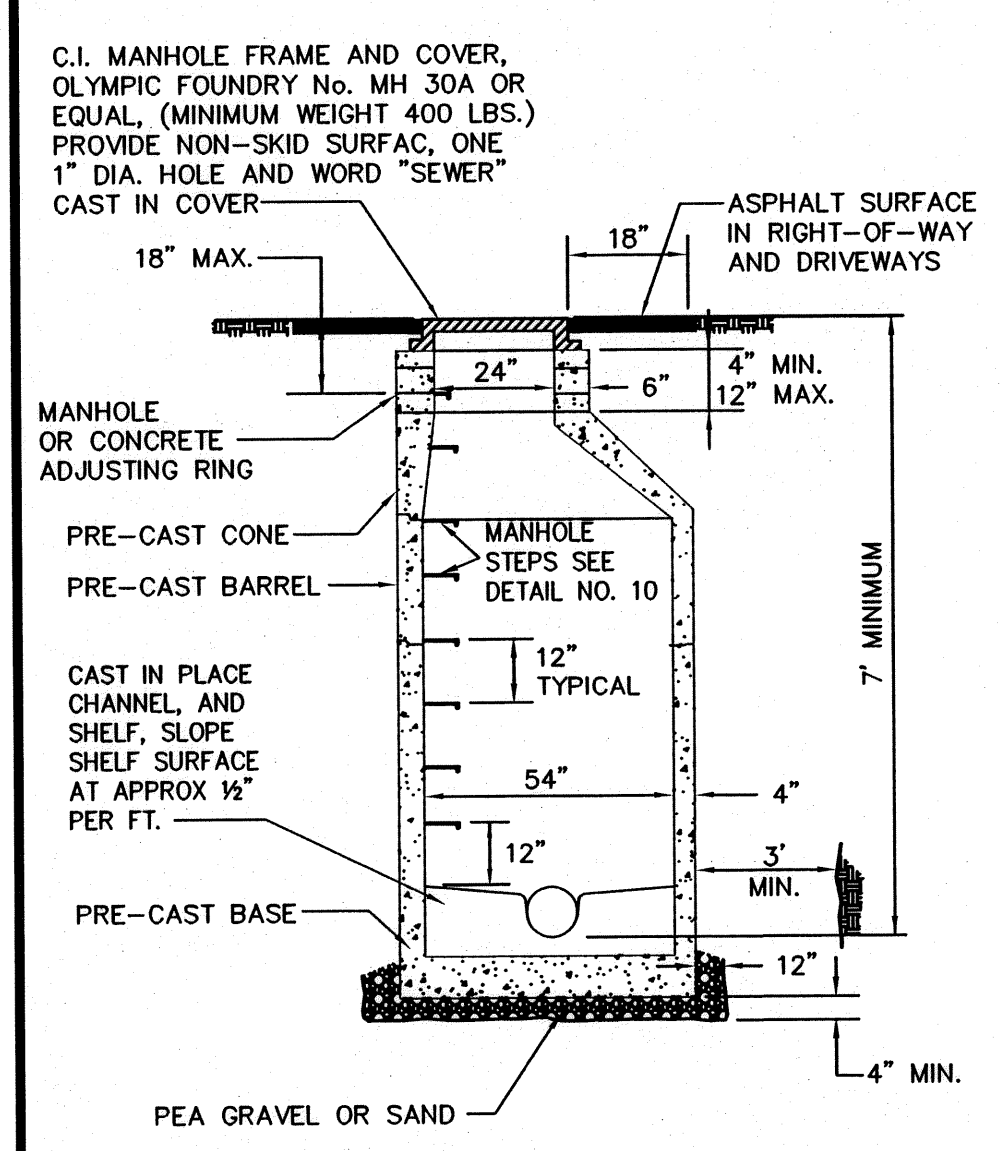


Table 1
WATER MAIN STANDARD PIPE MATERIAL

TYPE OF PIPE	AWWA (ASTM) STANDARD		
	PIPE	JOINT	FITTINGS
Ductile Iron	C 151 & C104	C 111	C 153

NOTE:
For perpendicular construction, maintain 18" separation or construct waterline passing over sewer line and use water main standards setforth above for the sewer with minimum 18 feet length centered over crossing.

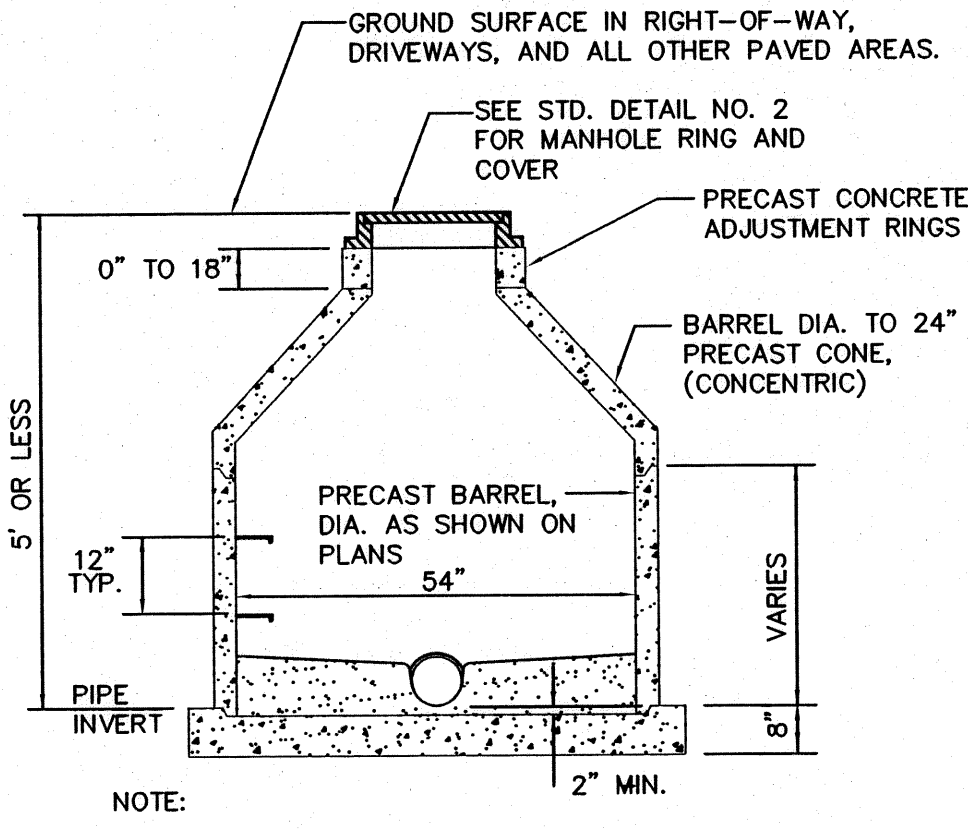
DETAIL NO. 1
PARALLEL CONSTRUCTION



TYPICAL FOR 54" MANHOLE

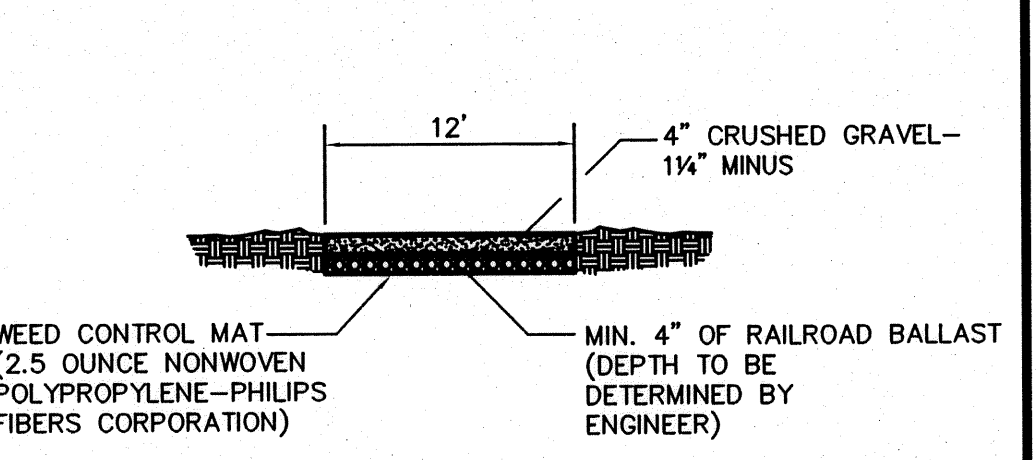
- NOTES:
- Details shown are typical for all manholes unless otherwise noted.
 - A 2 inch thick, 6 foot diameter asphalt pad is to be placed around the rim of manholes in unpaved areas.
 - Manholes with depths of 20 feet and greater need to be 72" diameter with a safety platform. Ask for detail.
 - Provide a minimum three foot clearance from outside face of manhole to excavation in order to use a hoepac during compaction.
 - All Manholes shall have all interior surfaces, including channelling, coated (sealed) with a high solids urethane coating, Wasser MC-AROSHIELD or approved equal. Color of coating shall be white.

DETAIL NO. 2
STANDARD MANHOLE

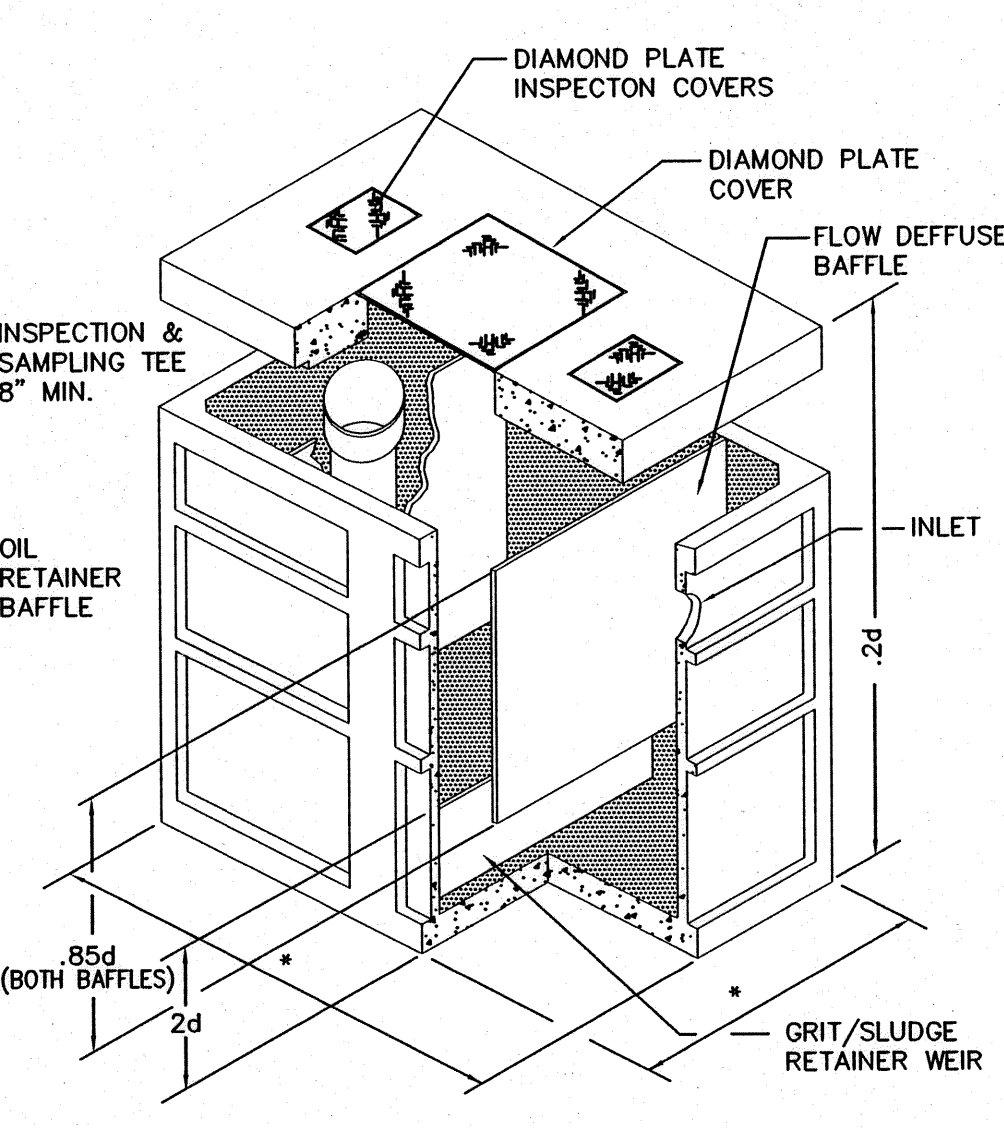


TYPICAL FOR 54" MANHOLE

DETAIL NO. 3
SHALLOW MANHOLE

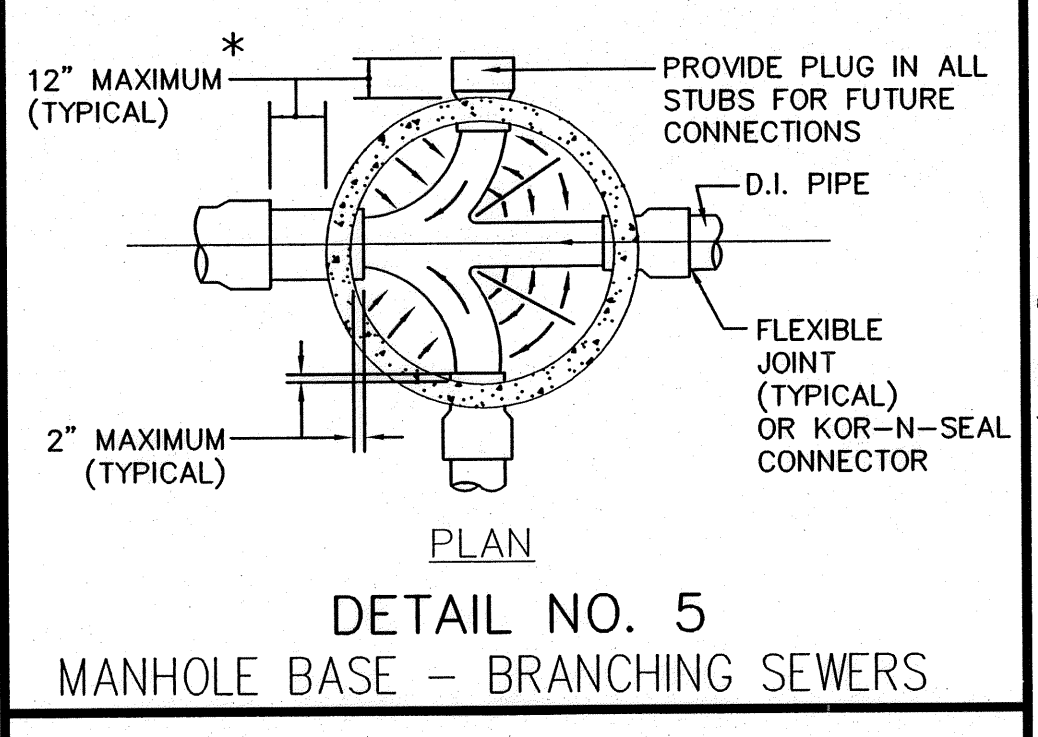


DETAIL NO. 15
ACCESS ROAD

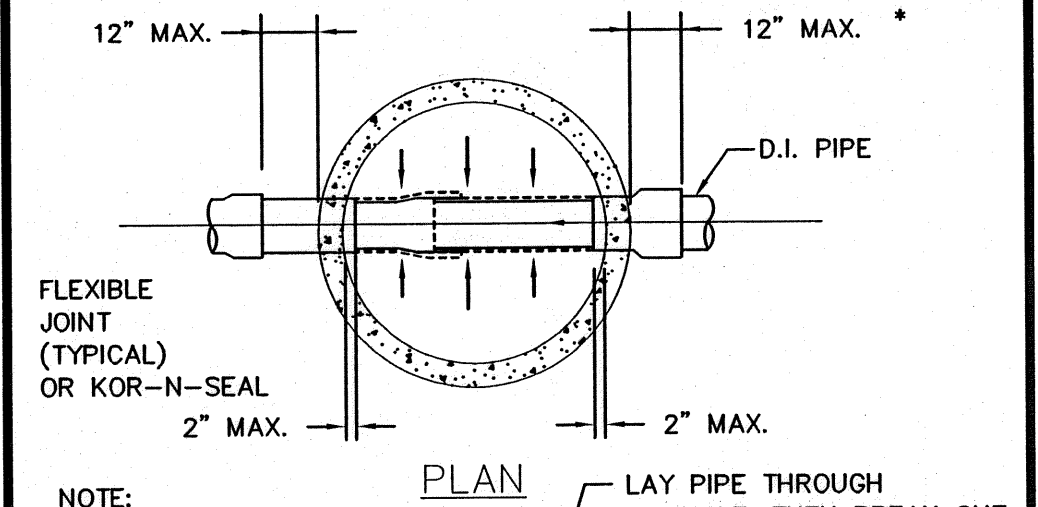


NOTE:
* OIL SEPARATOR TO BE SIZED TO HAVE A RETENTION TIME OF 45 MINUTES OR TO HAVE A MIN. OF 600 GALLONS OF TREATMENT CAPACITY.

DETAIL NO. 4
TYPICAL OIL SEPARATOR (600 gal. min.)

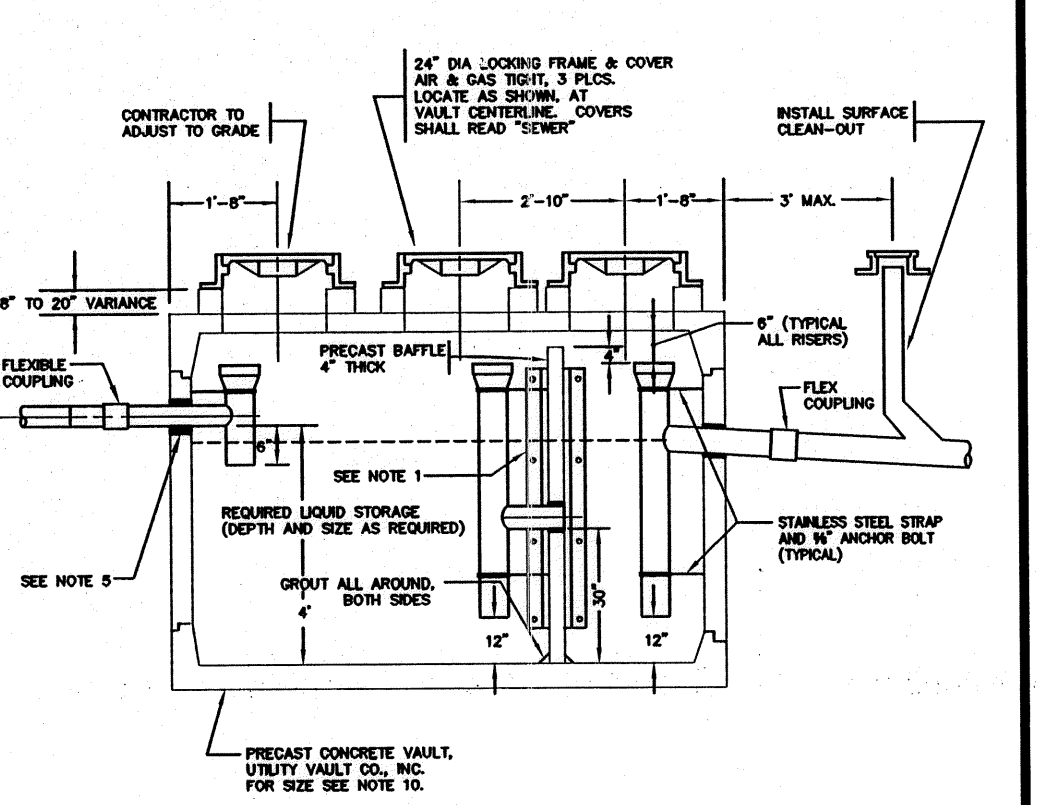


DETAIL NO. 5
MANHOLE BASE - BRANCHING SEWERS



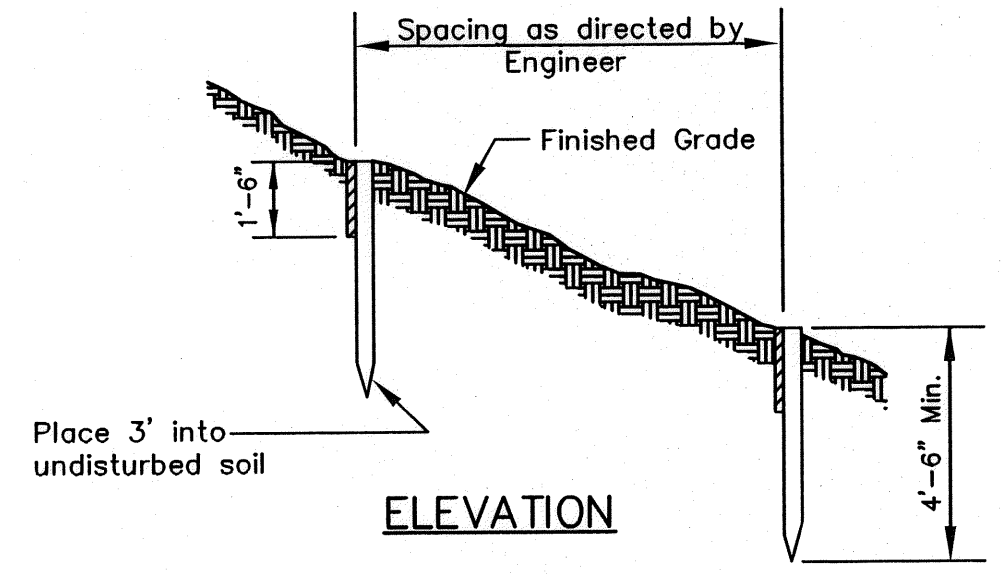
DETAIL NO. 6
MANHOLE BASE
STRAIGHT THROUGH FLOW

* FOR PVC PIPE, JOINTS SHALL BE PLACED A MIN. OF 10 FEET FROM THE MANHOLE WALL.

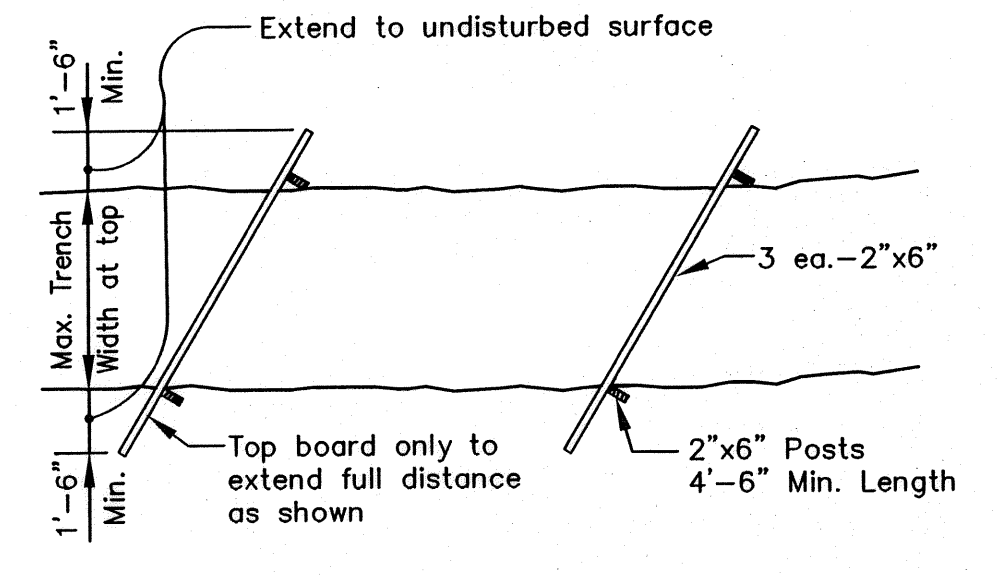


- NOTES:
- IF VAULT IS NOT SLOTTED TO ACCEPT PRECAST CONC. BAFFLE THEN PRECAST CONC. BAFFLE SHALL BE HELD IN PLACE BY (2) 3" x 3" x 7' ANGLE (HFT. LONG) ATTACHED TO VAULT WALL WITH (4 EA.) 1" BOLTS AND NUTS (WITH WASHERS) SPACED 14" O.C. ANGLE AND FASTENERS SHALL BE STAINLESS STEEL, OR GALVANIZED AND ASPHALT COATED.
 - PRECAST VAULT AND BAFFLE SHALL HAVE KNOCKOUTS AT ALL PIPE OPENINGS. IF KNOCKOUTS ARE NOT PRESENT THEN PIPE OPENINGS SHALL BE CORE-DRILLED. PIPE OPENINGS SHALL BE 2" LARGER THAN PIPE DIAMETER.
 - POSITION RISERS BELOW ACCESS OPENINGS TO ALLOW CLEAR ACCESS TO RISER AND VAULT CHAMBER.
 - LOCATE INTERCEPTOR WITHIN 20' OF DRIVE FOR ACCESS BY MAINT. VEHICLE.
 - CONNECTIONS TO CONCRETE WALLS WITH P.V.C. PIPE REQUIRE KOR-N-SEAL CONNECTOR OR A.C. x P.V.C. BRANT ADAPTER. SEAL ALL PIPE CONNECTIONS WITH NONSHRINK GROUT.
 - LINE-SIZED P.V.C. PIPE SHALL BE USED THROUGHOUT.
 - GRAY-WATER ONLY. BLACK-WATER SHALL BE CARRIED BY SEPERATE SIDE SEWER.
 - CLEAN-OUT REQUIRED 3' MAX. DOWNSTREAM OR INTERCEPTOR.
 - FILL WITH CLEAN WATER PRIOR TO START UP OF SYSTEM.
 - SIZE WILL BE PER UNIFORM PLUMBING CODE APPENDIX H. (750 GAL. MIN.)

DETAIL NO. 7
TYPICAL VEGETABLE-FAT & GREASE INTERCEPTOR



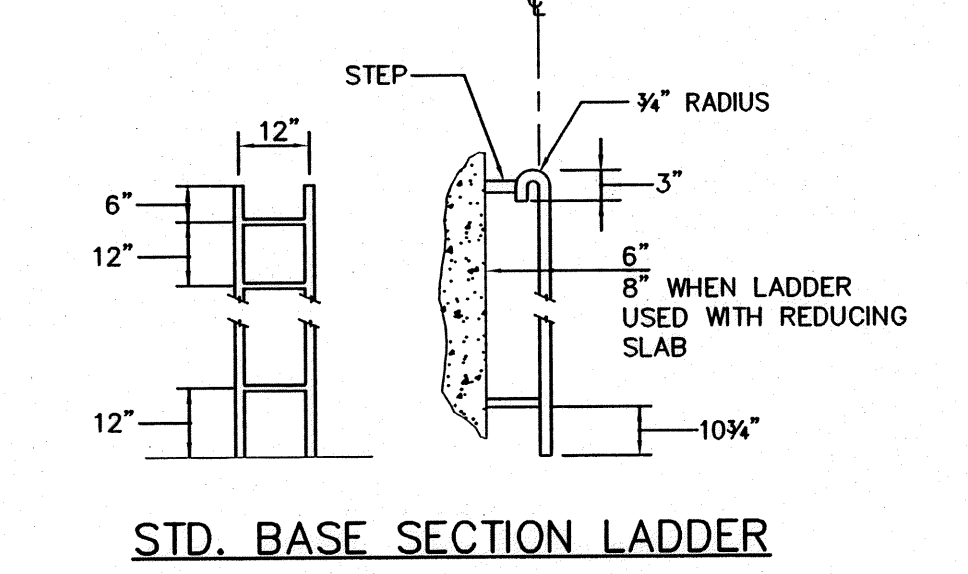
ELEVATION



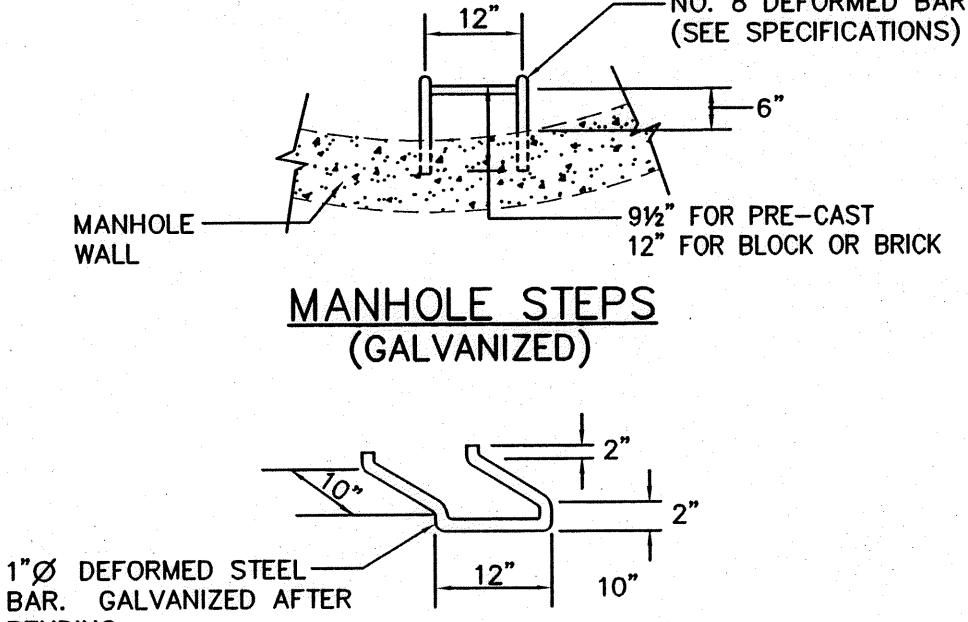
PLAN

- Notes:
- Timber baffles to be installed where directed by the Engineer or District Inspector.
 - All backfill shall be seeded.

DETAIL NO. 9
HILL HOLDER



STD. BASE SECTION LADDER

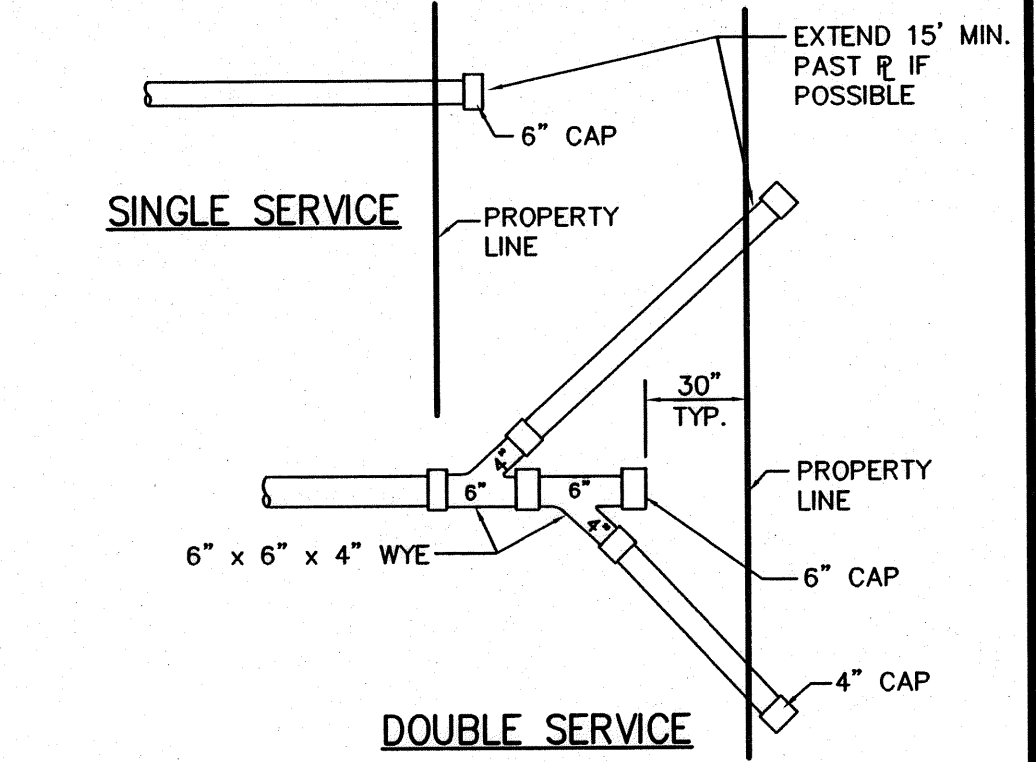


MANHOLE STEPS
(GALVANIZED)

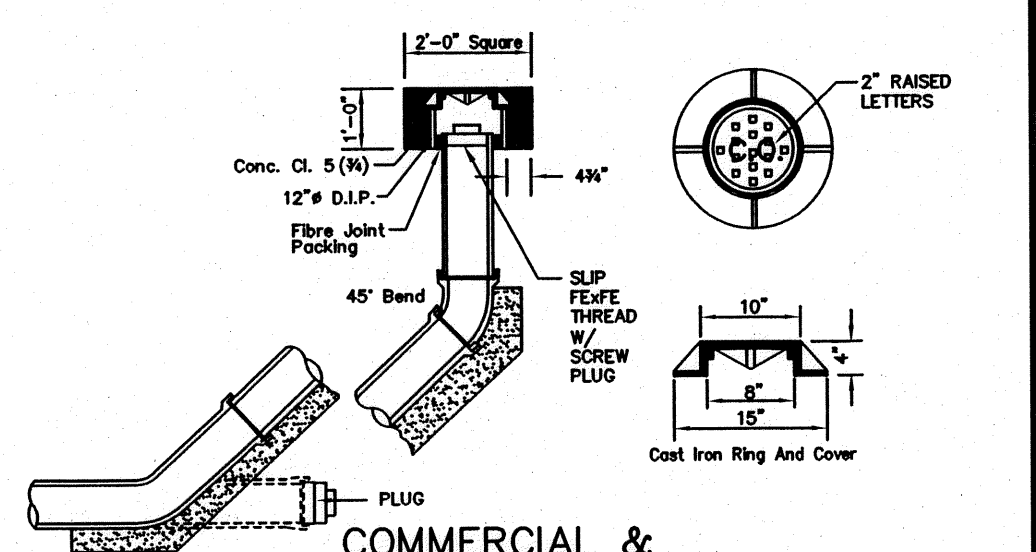
1" DEFORMED STEEL BAR. GALVANIZED AFTER BENDING

NOTE:
POLYPROPYLENE STEPS MAY BE SUBSTITUTED FOR GALVANIZED. POLYPROPYLENE MANHOLE STEPS SHALL BE LANE MODEL P-14938 OR APPROVED EQUAL.

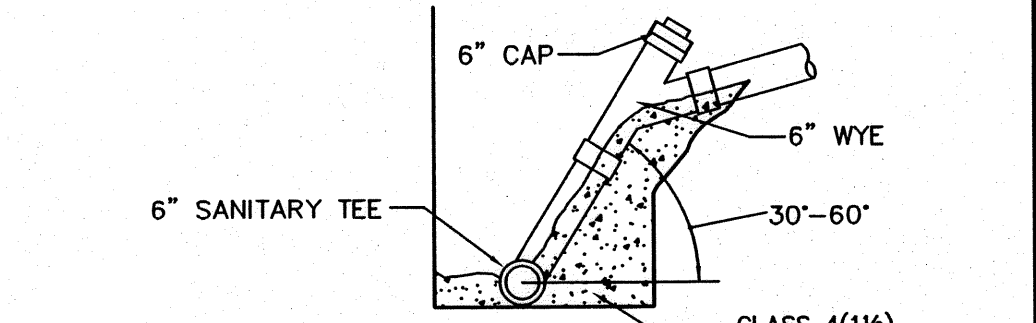
DETAIL NO. 10
MANHOLE STEP DETAILS



DOUBLE SERVICE

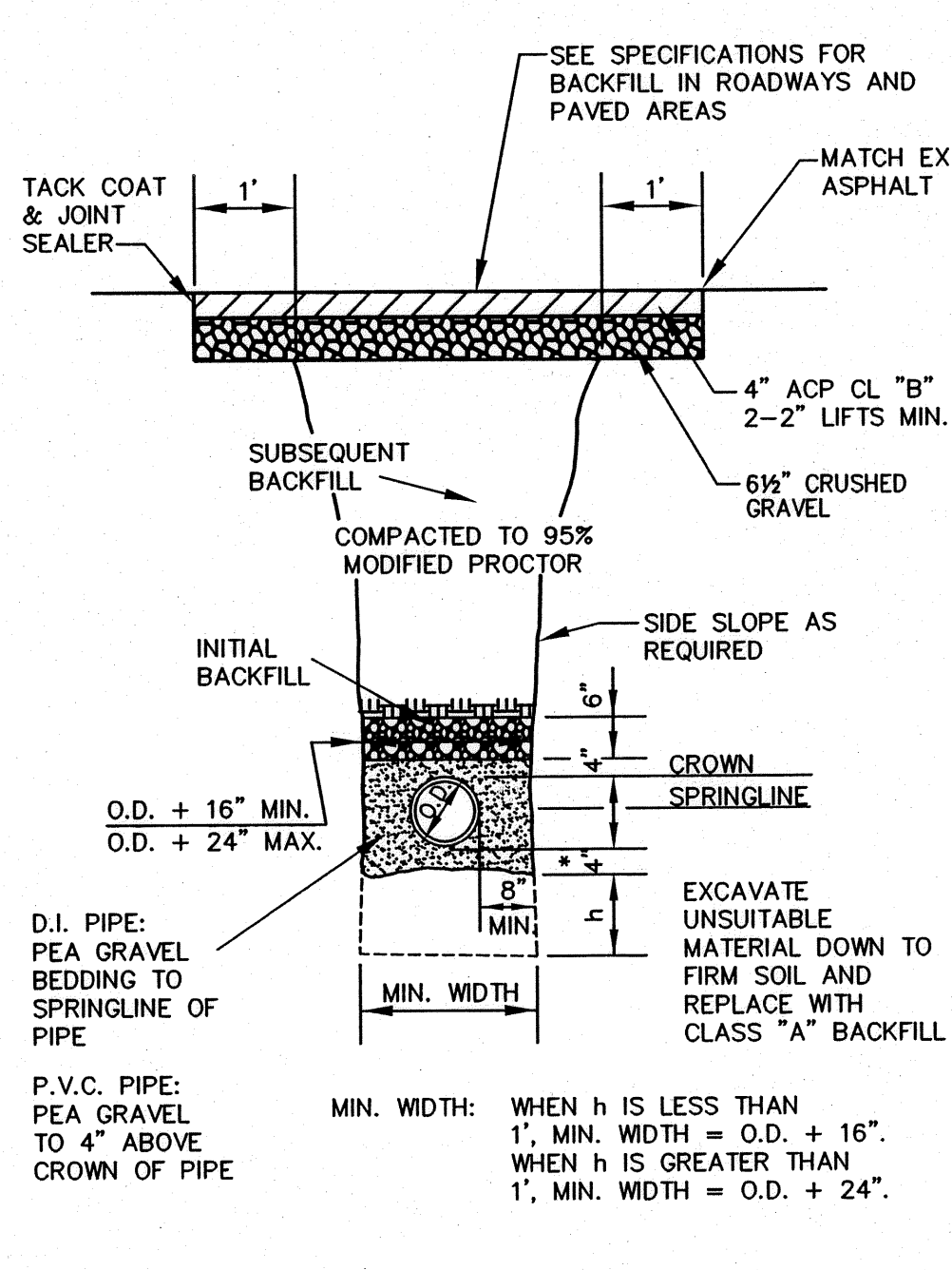


COMMERCIAL & MULTI FAMILY SERVICE

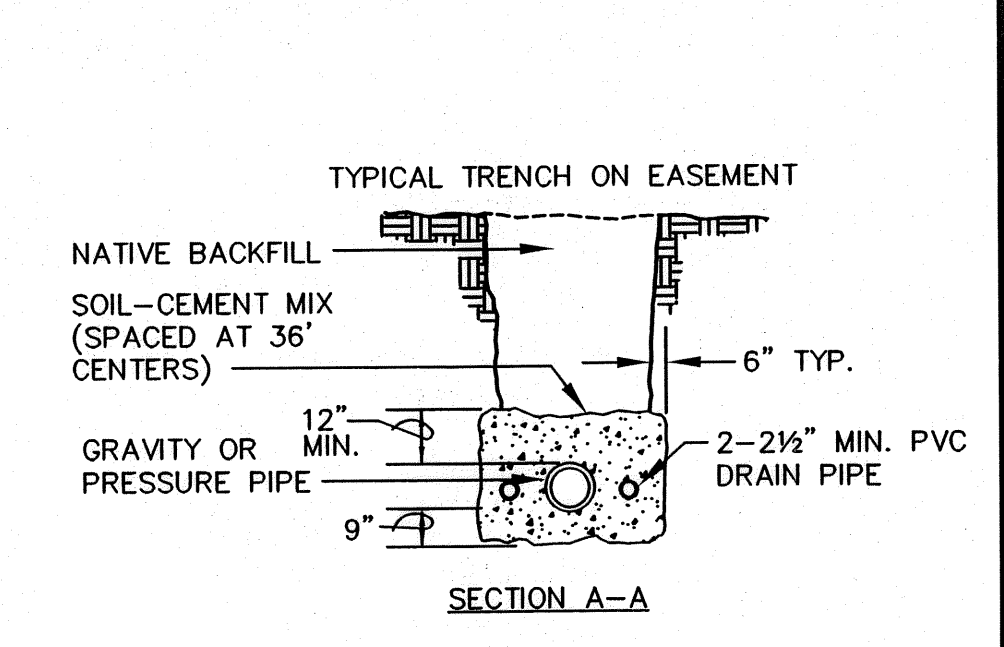


STANDING SERVICE
MAY BE REQUIRED AT DEPTHS > 12'

DETAIL NO. 11
SIDE SEWER DETAILS

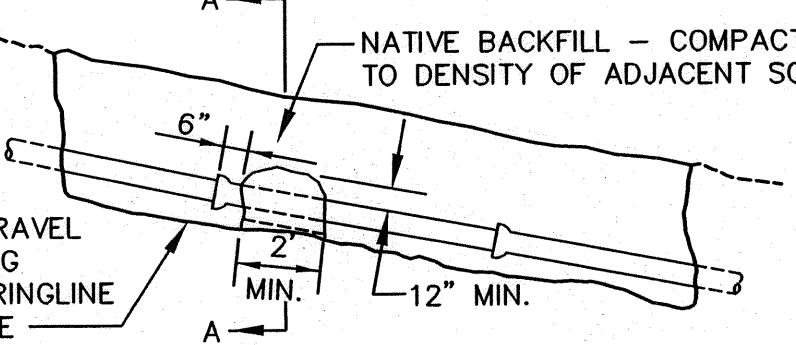


DETAIL NO. 12
TRENCH CROSS SECTION FOR
P.V.C. OR D.I. PIPE



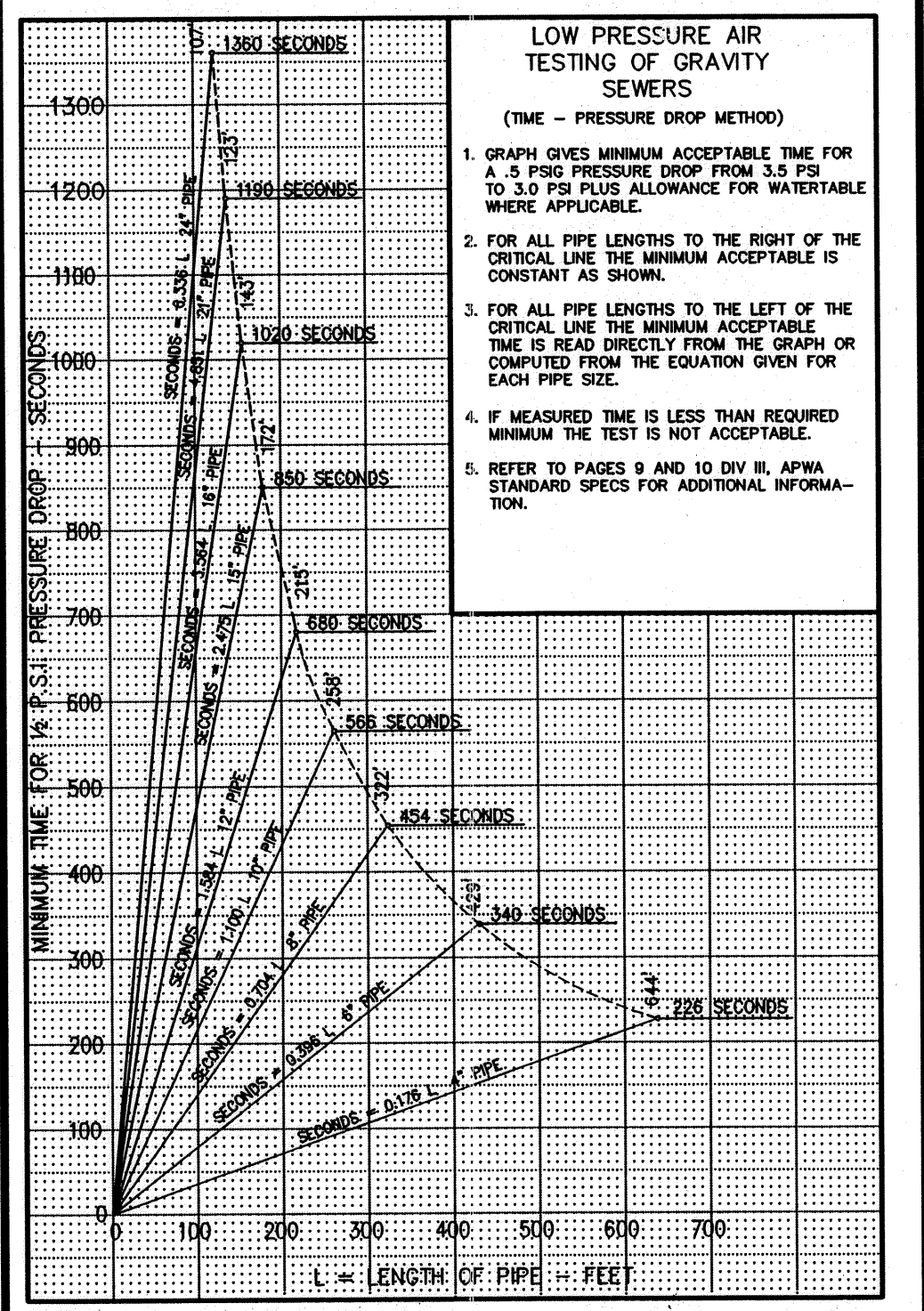
SECTION A-A

Soil cement blocks placed over and around pipe. Tamped into place before placing backfill. Use 10 percent cement with 90 percent native soil and water to suit to form a dry mix that will hold its shape when molded into a ball. Omit soil cement blocks on slopes less than 15 percent unless otherwise shown on plan.



NOTE: "FIELD LOK" GASKETS MAY BE USED IN LIEU OF PIPE ANCHORS.

DETAIL NO. 13
PIPE ANCHOR

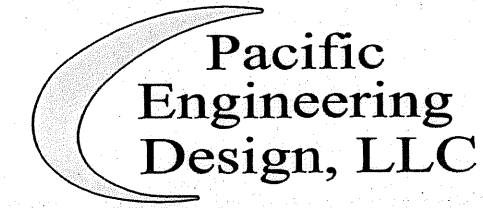


- LOW PRESSURE AIR TESTING OF GRAVITY SEWERS
(TIME - PRESSURE DROP METHOD)
- GRAPH GIVES MINIMUM ACCEPTABLE TIME FOR A 5 PSI PRESSURE DROP FROM 3.5 PSI TO 3.0 PSI PLUS ALLOWANCE FOR WATERTABLE WHERE APPLICABLE.
 - FOR ALL PIPE LENGTHS TO THE RIGHT OF THE CRITICAL LINE THE MINIMUM ACCEPTABLE IS CONSTANT AS SHOWN.
 - FOR ALL PIPE LENGTHS TO THE LEFT OF THE CRITICAL LINE THE MINIMUM ACCEPTABLE TIME IS READ DIRECTLY FROM THE GRAPH OR COMPUTED FROM THE EQUATION GIVEN FOR EACH PIPE SIZE.
 - IF MEASURED TIME IS LESS THAN REQUIRED MINIMUM THE TEST IS NOT ACCEPTABLE.
 - REFER TO PAGES 9 AND 10 DIV II, A.P.W.A. STANDARD SPECS FOR ADDITIONAL INFORMATION.

DETAIL NO. 14
LOW PRESSURE AIR TESTING OF
GRAVITY SEWERS

FILE NAME (UPDATED BY) PLOT DATE & TIME

DESIGNED	REVISED PER DISTRICT COMMENTS	8/8/07	TLR	DGS
DRAWN JRL	REVISED PER DISTRICT COMMENTS	8/27/08	BCS	DGS
CHECKED DGS				
SYM	REVISION	DATE	BY	APP'D



15445 53RD AVE. S. SEATTLE, WA 98188
PHONE: (206) 431-7970 FAX: (206) 388-1648 WEB SITE: PACENG.COM
Civil Engineering and Planning Consultants



COAL CREEK UTILITY DISTRICT
6801 132ND PLACE S.E.
NEWCASTLE, WASHINGTON 98059

REFERENCE INFORMATION	DATE
FIELD BOOK: SURV. CPU FILE: DATUM: NAD83	JUNE 27, 2008
SCALE	NOTED

LAWRENCE PARK STANDARD DETAILS		JOB NUMBER
		07026.00
		DWG NO. 051195SDT-P3.DWG
		SHEET 3 OF 3