

88-1524

THE METROPOLITAN DISTRICT
BUREAU OF PUBLIC WORKS
 115 BROAD STREET, HARTFORD, CONNECTICUT

DESIGN STANDARDS
RECEIVED
 SHEET: A

NOV 1963

DEPARTMENT OF
ENGINEERING

SEWER DESIGN-DEPTHS AND GRADES

GRADES IN FT./FT. FOR VELOCITY REQUIREMENTS

SIZE DIAMETER (IN)	CONN STATE DEPT. OF HEALTH RECOMMENDED MIN. GRADES VEL. (FULL OR $\frac{1}{2}$ FULL) 20 FPS N:013	USED BY METROPOLITAN DISTRICT			
		ABSOLUTE MIN.	USUAL MIN.	RECOMMENDED MIN. AT DEAD ENDS	USUAL MAX. (VEL. < 10 FPS)
6" H.C.	.0065	.005	.01		0.16
8	.0040	.003	.004	.006	0.10
10	.0029	.0024	.003		0.07
12	.0022	.002			0.05
15	.0016	.0016			0.04
18	.0012	.0012			0.03
20 OR 21	.0010	.001			0.025
24	.0008	.0008	SAME AS ABSOLUTE		0.02
27					
30		.0005	MIN.		0.014
33					
36	.0004	.0004			0.010
39					
42		.00036			0.009
48		.0003			0.007
54		.00024			0.006
60		.0002			0.005

MIN. VEL. IN SIPHONS: 3 FT./SEC. SAN SEWAGE; 5 FT./SEC. COMBINED SEWAGE

IDEAL DEPTH OF COVER IN ORDINARY LEVEL LAND USUALLY 8 TO 9 FEET RESIDENTAL DISTRICTS; 10 TO 11 IN BUSINESS DISTRICT. SEE BPW STANDARD SPECS (NOV 1960) 32.08-01

ON STEEP GRADES DEPTHS CAN BE REDUCED BY THE RATE OF SEWER GRADE $\times \frac{1}{3}$ TO $\frac{1}{2}$ FRONTAGE OF LOT.

MAX. OPEN CUT DEPTHS 20' TO 25' FEET.

MIN. DEPTH OF COVER 6 FT. OR LESS WHERE NO CELLARS OR WHERE SOIL & GROUND WATER CONDITIONS CAUSE EXCESSIVE COSTS FOR IDEAL DEPTHS. MAKE STUDY OF TOPOGRAPHY, CELLAR ELEV., ELEV. OF PRESENT OUTLET TO SEPTIC TANK, LOC. & ELEV. OF PRESENT UTILITIES & POSSIBLE INTERFERENCE THEREWITH BEFORE FINAL DESIGN IS MADE. IF COVER MUST BE LESS THAN 3 FT. (OR LESS THAN 4 FT. WHERE ROAD GRADING WORK MAY TEMPORARILY REMOVE TOP 1 FT. OF COVER) BUILD SEWER OF CAST IRON FEDERAL SPEC. WW-P-421 A CLASS 150 WATER PIPE, OR ENCASE SEWER IN CONCRETE.

WHERE MIN. DEPTHS ARE USED, BE CAREFULL NOT TO PITCH Ys AND BENDS UP MORE THAN 1" OR 2" WHERE THERE IS AMPLE PITCH, CAN PITCH Ys AND BENDS UP TO 6" ±

RECOMMENDED MIN. PITCH FOR 6" H.C. 2% OR $\frac{1}{4}$ " PER FOOT. USUAL ABSOLUTE MIN. 1% OR $\frac{1}{8}$ " PER FOOT.

FOR SANITARY FLOW ONLY (MAX. FLOW = 0.01* C.F.S./ACRE) AN 8" PIPE AT MIN. SLOPE (0.4%) CAN DRAIN UP TO 70 ACRES. A 10" PIPE AT MIN. SLOPE (0.3%) CAN DRAIN 120 ACRES.

* NOTE: ON LARGER AREAS IT MAY BE ADVISABLE IN SOME CASES TO GRADUATE THIS DOWNWARD. SEE DESIGN STANDARD SHEET "B"

RECOMMENDED MANHOLE SPACING 300 FT. PLACE MANHOLE AT EACH ANGLE POINT IN LINE OR GRADE. ORDINARY MAXIMUM MANHOLE SPACING (WHERE COST OF A MANHOLE THEREBY SAVED) 375 FT.

SHOW Ys 10 TO 15 FEET UPSTREAM OF LOT LINE

SERIAL NO. 10480

AESS 88

NOV. 1950

JAN. 1957
REVISED DEC. 1958