Fauquier County Water and Sanitation Authority

7172 Kennedy Road

Warrenton, Virginia 20187

Standard Tables

February 2015

Table 5-A-1

Fauquier County Service District Land Use Densities

Land Use Category	Density (Unit/Acre)	Unit	Flow/Unit (gpd)
Residential			
Low Density	1 - 3	DU	390
Medium Density	4 - 6	DU	350
High Density	7 - 20	DU	350
Planned Residential Development	3 - 6	DU	350
Manufactured Dwelling Park	8	DU	300
Commercial			
Commercial Office		Acre*	2,000
Commercial Highway		Acre	2,000
Commercial Neighborhood		Acre	2,000
Commercial Shopping Center		Acre	2,000
Industrial			
Industrial		Acre	2,000
Light Industrial		Acre	1,500

***Note: Acre refers to gross acreage.**

Sanitary sewer design calculations and a sewer shed map will be submitted for all proposed sewer mains as part of the project plans. The sewer design calculations will be in the format shown in Detail G-06.

Table 5-A-2
Sanitary Sewage Flows - Peak Factors

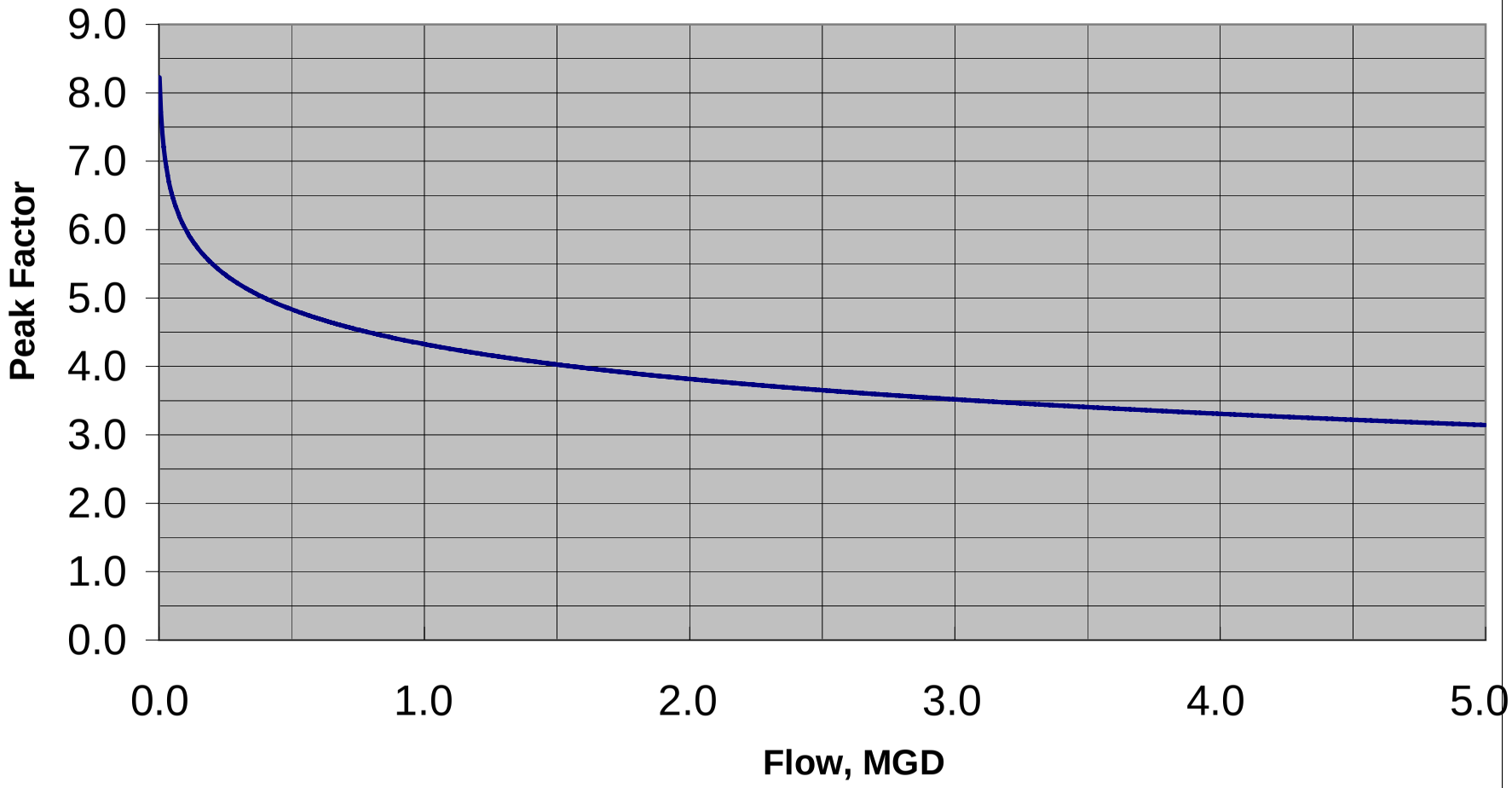

Table 5-A-3

Minimum Slopes

Sewer Diameter in Inches	Minimum Slope
8	0.50
10	0.30
12	0.25
15	0.15
18	0.12
21	0.10
24	0.10
30	0.10
36	0.05
42*	0.05

Note: For sewers larger than 42" in diameter, the minimum slope will be computed by the formula:

$$S = [(v \times n)/(1.49 \times R^{2/3})]^2$$

Where: V = Velocity (ft/sec)
n = (Manning Coefficient, 0.013)
R = Hydraulic Radius (ft) = Diameter in feet/4

Hydraulic losses at manholes will be accounted for by providing a minimum of 0.2 foot difference between the invert in and the invert out for sewer lines up to 12 inches in diameter.

At intersections and transitions of sewers larger than 12 inches in diameter, hydraulic losses shall be computed separately and the hydraulic analysis submitted to the Authority for approval.

At manholes where pipe size increases, the inverts shall be designed so that the crowns of the different sized pipes are at the same elevation.

Table 5-A-4
Slope Adjustment Factor

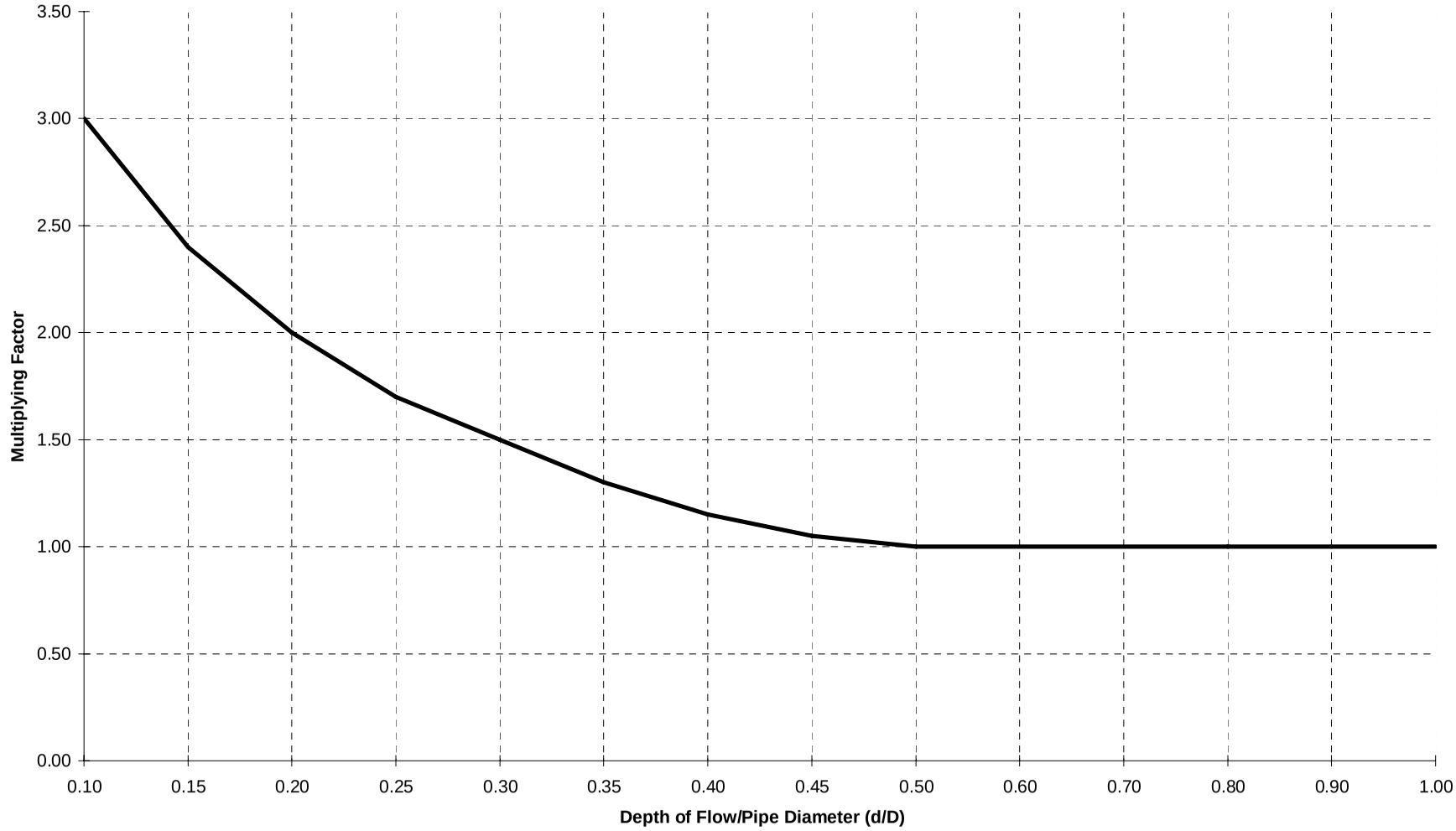

Table 5-A-5

Maximum Depth of Cover*

Pipe	Type 4" Laying Condition Cement-lined D.I.P. Class 50	Class 51	Class 52	Class 1 Gravel Bedding PVC** SDR-35	Max. Trench Width (inches)
8	40	40	40	18	42
10	38	40	40	18	42
12	36	40	40	18	42
14	33	38	40	--	42
15	--	--	40	18	42
16	30	34	40	--	42
18	29	32	36	18	44
20	27	30	34	--	44
21	--	--	--	18	48
24	23	27	30	18	51
27	--	--	--	18	55
30	18	21	24	--	60
33	--	--	--	--	63
36	17	20	24	--	69
42	16	19	22	--	78
48	15	18	21	--	87
54	15	18	21	--	96

Notes: * All depths shown in feet.

**** For depths in excess of 18 feet, Engineer shall provide design data.**