

A2.3 Instantaneous Demand Calculations & Meter Sizing

Using Fixture Based Demands

FACILITY: Clearwater Subdivision - Lot 45

DATE: 1/1/2004

FUNCTION SELECTOR ▼

Check for HELP

NOTE: The FIXTURE VALUES on this table were derived from AWWA Manual M-22 table 4-2. 2004 edition.

#	FIXTURE VALUES Standardized at 60 psi	Fixture Value in gpm	Quantity of Fixtures	Total Fixture Value in gpm	Reference
1	Typical Fixtures				
a	Toilet (Tank)	4	3	12	
b	Toilet (flush valve)	35		0	
c	Urinal (wall or stall)	16		0	
d	Urinal (flush valve)	35		0	
e	Bidet	2		0	
f	Shower (single head)	2.5	3	7.5	
g	Faucet (lavatory)	1.5	3	4.5	
h	Faucet (kitchen sink)	2.2	1	2.2	
i	Faucet (utility sink)	4	1	4	
j	Dishwasher	2	1	2	
k	Bathtub	8	1	8	
l	Clothes Washer	6	1	6	
2	Hose Wash Down Connections (with 50 feet of hose)				
a	1/2 inch Hose	5		0	
b	5/8 inch Hose	9		0	
c	3/4 inch Hose	12		0	
3	Miscellaneous				
a	Bedpan Washers	10		0	
b	Drinking Fountains	2		0	
c	Dental Units	2		0	
4	Other Added Fixed Demand Loads from Fixtures (from manufacturers specifications)				
a				0	

5	TOTAL GROSS FIXTURE VALUE (gpm):			46.20	AWWA Manual M-22 table 4-2
6	Domestic Usage Instantaneous Probability Correction:		Corrected gpm:	46.20	AWWA Manual M-22 figures 4-2 & 4-3
	Select Type:	Single Residence			
7	Select Average Pressure at Meter Outlet (psi):			60	
	Pressure Adjustment Factor:			1.00	AWWA Manual M-22 table 4-1
8	Domestic (Non-Irrigation) Demand - Corrected for Pressure (gpm):			46.20	Lines 6 X 7
9	IRRIGATION DEMANDS SECTION:				AWWA Manual M-22 figure 4-5 and 4-6
		Sq. Ft.	Factor per 100 sq. ft	Fixture Value in gpm	
	a	Irrigated Area with SPRAY Systems in square feet:	1000	1.16	11.6
	b	Irrigated Area with ROTARY Systems in square feet:	3000	0.40	12
	c	Irrigated Area with Hose Sprinkler Systems in square feet:			
	d	TOTAL IRRIGATED AREA (in square feet):	4000		
			#	Pressure Corrected Value ea.	Fixture Value in gpm
	e	Number of Irrigation Hose Bibs (average 50 feet of 5/8" hose):	1	9.00	9
10	TOTAL IRRIGATION DEMANDS:			32.60	
11	FIRE SPRINKLER SYSTEM Demands (gpm):				
12	OTHER Fixed Demands not itemized above (gpm):				
13	TOTAL INSTANTANEOUS DEMAND for this Facility (gpm):			78.80	Lines 8+10+11+12

14	PEAKING PROBABILITY CURVES (from AWWA Manual M-22)	Enter Title of Custom Profiles Below				
	Custom Probability Curves may be entered in the two far right columns, based on sound practical real time-testing data and engineering techniques. The standards listed are based on AWWA standards, as referenced in this worksheet. Enter the names of the curves in the yellow boxes at the top of the columns, and the corresponding names will appear in the selector on line 6 above, then enter the appropriate correction gpm figures below.	GROSS GPM	Apartments, Condominiums, Motels, Trailer Parks	Hotels, Shopping Centers, Restaurants, Schools, Public Buildings, Hospitals	[Custom Probability Profile 1]	[Custom Probability Profile 2]
1	0	0				
2	10	10				
3	20	14				
4	30	17	39			
5	40	20	41			
6	50	21	42.5			
7	60	21.5	44			
8	70	22	45			
9	80	22.5	46			
10	90	23	47			
11	100	24	48			
12	150	27	49			
13	200	29.5	55			
14	250	32.5	61			
15	300	36	66			
16	350	38	71			
17	400	41.5	76			
18	450	44	80			
19	500	46.5	85			
20	550	48.5	88			
21	600	51	93			
22	650	53	96.5			
23	700	55	100			
24	750	56	104			
25	800	57	107			
26	850	58	110			
27	900	59	113			
28	950	60	116			
29	1000	60.5	118			
30	1050	61	121			
31	1100	62	124			
32	1150	63	126			
33	1200	64	128			
34	1250	65	130			
35	1300	66	132			
36	1400	67	136			
37	1500	68	139			
38	1600	69	141			
39	1700	70	143			
40	1800	71	145			
41	1900	72	147			
42	2000	73	148			
43	2500	76	152			
44	3000	79	156			
45	3500	82	159			
46	4000	85	163			
47	4500	88	167			
48	5000	91	170			
49	5500	94	173			
50	6000	98	176			
51	6500	101	179			
52	7000	105	182			
53	7500	109	185			
54	8000	113	188			
55	8500	116	191			
56	9000	120	195			
57	9500	124	199			
58	10000	127	202			
59	10500	130	205			
60	11000	133	209			
61	11500	136	212			
62	12000	138	216			
63	12500	140	220			
64	13000	141	224			