



Water & Sewer System Analysis

One Form Per Meter

Please call Public Utilities Engineering (239) 252-2583 with any questions.

Preparer's Information:

Name =====> _____

Title =====> _____

Company=====> _____

Address =====> _____

Phone =====> _____

Email Address =====> _____

Project Information:

Date =====> _____

Permit or AR Number _____

Name of Project =====> _____

Project Address =====> _____

Please Note:

1. All commercial facilities must be metered separately from residential facilities with the exception of those commercial facilities that are within a master metered residential development and designed for the exclusive use of the residents within such development.
2. The water meter shall be selected to allow a maximum pressure loss at design flow of 5 psi except the 3-inch meter shall be a maximum pressure loss of 5.5 psi.
3. Additional fees may apply if a backflow device is deemed necessary by the Water Distribution Department.
4. The Design Engineer/Architect must submit signed and sealed documentation supporting meter sizing including County approved manufacturer's name and model number. For meters 4-inch and smaller the sizing shall be based upon Fixture Flow Values as shown on the following page and sized as per the Table on page 3 unless approved otherwise by the Collier County Utilities Engineering Department. For all meters the Engineer/Architect must consider all relevant factors before selecting the final meter size.
5. For remodeling projects this form must be submitted only if there is a net increase in Fixture Flow Value.

This Section to be filled out by Engineer/Architect of Record:

Flow rate in accordance with the Fixture Flow Value Worksheet _____

(Engineer/Architect must attach a completed Fixture Flow Value Worksheet)

Meter Size in Inches _____

(Engineer/Architect must identify the meter manufacturer and model number)

Type or Print Name of Engineer/Architect of Record for Project

Signature of Engineer/Architect of Record for Project and Date

[Affix Engineering/Architect Stamp Here]



Fixture Flow Value Worksheet

Supporting Documentation

Please call Public Utilities Engineering (239) 252-2583 with any questions.

Enter # of Fixtures of each Fixture Type, per unit, then multiply by appropriate Value to get Fixture Value

Fixture	Flow Rate (in gpm)		# of Fixtures Per Unit	Fixture Flow Value		
Automatic clothes Washer						
Commercial	3	x		=		
Residential	2	x		=		
Bathroom group						
As defined in FL Plumbing Code Section 202 (1.6 gpf water closet)	5	x		=		
As defined in FL Plumbing Code Section 202 (water closet flushing greater than 1.6 gpf)	6	x		=		
Bathtub	4	x		=		
Bidet	2	x		=		
Combination fixture	4	x		=		
Dental unit or cuspidor	1					
Dishwasher, residential	2.75	x		=		
Drinking fountain	0.75	x		=		
Kitchen sink, domestic	2					
Laundry tray	4	x		=		
Lavatory	2	x		=		
Shower	3	x		=		
Sillcock, hose bibb	5	x		=		
Sink						
Residential	2.5	x		=		
Service	3	x		=		
Urinal						
Standard	4	x		=		
1 gallon per flush or less	2	x		=		
Valve	15	x		=		
Wash sink (circular or multiple) each set of faucets	2	x		=		
Water Closet						
Blow out, flushometer valve	35	x		=		
Flushometer tank	1.6	x		=		
Siphonic, flushometer valve	25	x		=		
Tank, close coupled	3	x		=		
Tank, one piece	6	x		=		
Misc. Connections						
3/8" Connection	2.5	x		=		
1/2" Connection	5	x		=		
3/4" Connection	15	x		=		
1" Connection	25	x		=		
1 1/4" Connection	35	x		=		
For any fixtures not listed, submit manufacturer's data sheets and enter appropriate description and value:						
Other:		x		=		
Other:		x		=		
Other:		x		=		
Other:		x		=		
					Total Fixture Value Per Unit =====>	
					Number of Units with this Fixture Count =====>	
					Grand Total of Fixture Flow Value (Per Unit Total x Number of Units)	

Number of Flush Valves	GPM
1	15
2	21
3	22
4	23
5	24
6	25
7	26
8	27
9	28
10	29

Buildings with more than 10 flush valves will be handled on a case-by-case basis.



Table for Estimating Demand

Supporting Documentation

Please call Public Utilities Engineering (239) 252-2583 with any questions.

SUPPLY SYSTEMS PREDOMINANTLY FOR FLUSH TANKS		SUPPLY SYSTEMS PREDOMINANTLY FOR FLUSH VALVES	
Load	Demand	Load	Demand
Fixture units	Gallons per minute	Water supply fixture units	Gallons per minute
1	3.0	---	---
2	5.0	---	---
3	6.5	---	---
4	8.0	---	---
5	9.4	5	15.0
6	10.7	6	17.4
7	11.8	7	19.8
8	12.8	8	22.2
9	13.7	9	24.6
10	14.6	10	27.0
11	15.4	11	27.8
12	16.0	12	28.6
13	16.5	13	29.4
14	17.0	14	30.2
15	17.5	15	31.0
16	18.0	16	31.8
17	18.4	17	32.6
18	18.8	18	33.4
19	19.2	19	34.2
20	19.6	20	35.0
25	21.5	25	38.0
30	23.3	30	42.0
35	24.9	35	44.0
40	26.3	40	46.0
45	27.7	45	48.0
50	29.1	50	50.0
60	32.0	60	54.0
70	35.0	70	58.0
80	38.0	80	61.2
90	41.0	90	64.3
100	43.5	100	67.5
120	48.0	120	73.0
140	52.5	140	77.0
160	57.0	160	81.0
180	61.0	180	85.5
200	65.0	200	90.0
225	70.0	225	95.5
250	75.0	250	101.0
275	80.0	275	104.5
300	85.0	300	108.0
400	105.0	400	127.0
500	124.0	500	143.0
750	170.0	750	177.0
1,000	208.0	1,000	208.0
1,250	239.0	1,250	239.0
1,500	269.0	1,500	269.0
1,750	297.0	1,750	297.0
2,000	325.0	2,000	325.0
2,500	380.0	2,500	280.0
3,000	433.0	3,000	433.0
4,000	535.0	4,000	525.0
5,000	593.0	5,000	593.0