Water Meter Sizing Form

One Form Per Meter

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

Preparer's Information:

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Project Information:

Date ====> 4/27/2017

Permit or AR Number PL20160002811

Name of Project ===> Marquesa Isles Of Naples Amenity Center

Project Address ===> County Barn Rd., Naples, FL 34112

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 Design Engineer/Architect must submit signed and sealed documentation supporting meter sizing. 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 Public Utilities Planning and Project Management Department. For all meters the Engineer/Architect must consider all relevant factors before selecting the final meter size.

3. 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:

Demand in accordance with the Fixture Flow Value Worksheet and the Table for Estimating Demand
(Engineer/Architect must attach a completed Fixture Flow Value Worksheet)

24.6 GPM

Meter Size in Inches
(If the meter is existing, Engineer/Architect must identify the meter manufacturer and model number)

3/4"

Demand Range (GPM)	Meter Size
0 to 30	3/4"
30.1 to 50	1"
50.1 to 100	1 1/2"
100.1 to 160	2"
160.1 to 450	3"
450.1 to 1000	4"

D. Brent Addison, P.E.

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

Digitally signed by David B. Addison, P.E. # 70611, State of Florida
DN: CN="David B. Addison, P.E. # 70611, State of Florida", O="This item has been electronically signed and sealed by David B. Addison, P.E. on the date shown below using SHA-1 authentication code.", OU=Printed copies of this document are not considered signed and sealed and the SHA-1 authentication code must be verified on any electronic copies., E=baddison@gradyminor.com, C=US
Reason: I am the author of this document
Location:
Date: 2017-04-26 08:31:57

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 Flow Rate to get Fixture Value

Fixture	Flow Rate		# of Fixtures Per Building		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		=	
Bathtub	4	x		=	
Bidet	2	x		=	
Dental unit or cuspidor	1	x		=	
Dishwasher, residential	2.75	x	1	=	2.75
Drinking fountain	0.75	x		=	
Shower	3	x		=	
Sillcock, hose bibb	5	x	2	=	10
Sink (per faucet)					
Kitchen, residential	2	x	1	=	2
Laundry tray	4	x		=	
Lavatory	2	x	4	=	8
Service	3	x	1	=	3
Wash	2	x		=	
Urinal					
Standard	4	x	1	=	4
Flushless	0	x		=	
Valve* Gallons/Flush = 0.125 x10		x		=	
Water Closet					
Flushometer valve* Gallons/Flush = 1.28 x10		x		=	
Flushometer tank	1.6	x	3	=	4.8
Tank	4	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		=	
Other:		x		=	

Total Fixture Value Per Building =>	34.55
Number of Units with this Fixture Count =====>	1
Grand Total of Fixture Flow Value (Per Unit Total x Number of Units) =====>**	34.55

*Valves are calculated using a flush rate of 10 flushes per minute (according to Florida Plumbing Code).
The flow rate is 10 times the gallons per flush.
The fixture flow value is calculated as follows:

Number of Valves	Calculation
1 - 2	Flow Rate **times** Number of Fixtures.
3 - 10	Flow Rate **times** two **plus** two **times** the Number of Fixtures.
11 or more	Flow Rate **times** Number of Fixtures **divided** by two.

**Use total Fixture Flow Value on "Table for Estimating Demand" to estimate water meter demand.

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 Flow Value	Gallons per minute	Fixture Flow Value	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	380.0
3,000	433.0	3,000	433.0
4,000	535.0	4,000	535.0
5,000	593.0	5,000	593.0