

DOMESTIC WATER MAIN SERVICE SIZING

Project: 301 Broadway Eagle, CO

Building: 17,907 SF Residential, 5,000 SF Retail, 2,500 SF COMMON

User: (9) Two Bedroom units/5,000 s.f. of Retail

(2) Retail: 1 bath each

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= User inputs
 = Calculated values
 = Estimated FU or DFU, due to IPC only dictating Drainage or Supply FU's for the given fixture type, not both.

All fixture unit values and fixture types taken directly from 2015 IPC, chapter 6 and appendix E. Waste data taken from 2015 IPC, chapter 7.
 Any fixtures not used in a specific project may be deleted.

Fixture Type	QTY	Total		Cold		Hot		Drainage	
		FU/ea	FU total	FU/ea	FU total	FU/ea	FU total	DFU/ea	DFU total
Bar Sink, Private	5	1	5.0	0.75	3.75	0.75	3.8	2	10.0
Bathroom Group, Private, Flush Tank	27	3.6	97.2	2.7	72.90	1.5	40.5	5	135.0
Bathroom Group, Private, Flush Valve		8	0.0	6	0.00	3	0.0	5	0.0
Bathtub, Private (w or w/o shower or jet attachments)		1.4	0.0	1	0.00	1	0.0	2	0.0
Bathtub, Public (w or w/o shower or jet attachments)		4	0.0	3	0.00	3	0.0	4	0.0
Bidet, Private		2	0.0	1.5	0.00	1.5	0.0	1	0.0
Clothes Washer (15 lb), Public, Automatic		4	0.0	3	0.00	3	0.0	3	0.0
Clothes Washer (8 lb), Private, Automatic	9	1.4	12.6	1	9.00	1	9.0	2	18.0
Clothes Washer (8 lb), Public, Automatic		3	0.0	2.25	0.00	2.25	0.0	3	0.0
Combination Sink & Tray		3	0.0	2.25	0.00	2.25	0.0	2	0.0
Dental Lavatory		1	0.0	0.75	0.00	0.75	0.0	1	0.0
Dental Unit or Cuspidor		1	0.0	0.75	0.00	0.75	0.0	1	0.0
Dishwashing Machine, Private, Automatic	9	1.4	12.6	-	-	1.4	12.6	2	18.0
Drinking Fountain, Offices, etc.	1	0.25	0.3	0.25	0.25	-	-	0.5	0.5
Emergency Floor Drain		-	-	-	-	-	-	0	0.0
Floor Drains (RE: 2015 IPC 709.4 for DFU Req'ts)		-	-	-	-	-	-	0	0.0
Floor Sinks (RE: 2015 IPC 709.4 for DFU Req'ts)		-	-	-	-	-	-	0	0.0
Kitchen Sink, Hotel/Restaurant, Faucet		4	0.0	3	0.00	3	0.0	4	0.0
Kitchen Sink, Private, Faucet (w or w/o Disposal and/or DW)	9	1.4	12.6	1	9.00	1	9.0	2	18.0
Laundry Tray (1 to 3 Compartments), Private, Faucet		1.4	0.0	1	0.00	1	0.0	2	0.0
Lavatory, Private, Faucet	9	0.7	6.3	0.5	4.50	0.5	4.5	1	9.0
Lavatory, Public, Faucet		2	0.0	1.5	0.00	1.5	0.0	1	0.0
Service Sink, Offices, etc., Faucet	1	3	3.0	2.25	2.25	2.25	2.3	2	2.0
Shower Head, Private, Mixing Valve		1.4	0.0	1	0.00	1	0.0	2	0.0
Shower Head, Public, Mixing Valve		4	0.0	3	0.00	3	0.0	2	0.0
Shower, 12.3 < Total Combined Flow Rate < 25.8 GPM		8	0.0	5	0.00	5	0.0	5	0.0
Shower, 25.8 < Total Combined Flow Rate < 55.6 GPM		10	0.0	6	0.00	6	0.0	6	0.0
Shower, 5.7 < Total Combined Flow Rate < 12.3 GPM		6	0.0	4	0.00	4	0.0	3	0.0
Urinal, Nonwater Supplied		-	-	-	-	-	-	0.5	0.0
Urinal, Public, 1" Flush Valve		10	0.0	10	0.00	-	-	4	0.0
Urinal, Public, 3/4" Flush Valve, 1 GPF or Less	2	5	10.0	5	10.00	-	-	2	4.0
Urinal, Public, Flush Tank		3	0.0	3	0.00	-	-	2	0.0
Wash Sink (Circular or Multiple), Each Set of Faucets		2	0.0	1.5	0.00	1.5	0.0	2	0.0
Water Closet, Private, Flush Tank	0	2.2	0.0	2.2	0.00	-	-	3	0.0
Water Closet, Private, Flushometer Valve		6	0.0	6	0.00	-	-	4	0.0
Water Closet, Public (1.6 GPF), Flush Tank	3	5	15.0	5	15.00	-	-	4	12.0
Water Closet, Public (1.6 GPF), Flush Valve		10	0.0	10	0.00	-	-	4	0.0
Water Closet, Public (Flushing >1.6 GPF), Flush Tank		5	0.0	5	0.00	-	-	6	0.0
Water Closet, Public (Flushing >1.6 GPF), Flush Valve		10	0.0	10	0.00	-	-	6	0.0
Water Closet, Public or Private, Flushometer Tank		2	0.0	2	0.00	-	-	4	0.0
Water Closet, Public, Flush Tank		5	0.0	5	0.00	-	-	4	0.0
Water Closet, Public, Flushometer Valve		10	0.0	10	0.00	-	-	6	0.0

BUILDING TOTALS: 174.6 126.7 81.6 226.5

Enter primary fixture flush type (type "Tank" or "Valve"):

Tank

	Flow (gpm)	Pipe Size (in)
Total Domestic Water:	60	2
Peak flow cold water:	50	2
Peak flow hot water:	40	1.5

Additional domestic water uses (irrigation, pools, etc.) may affect main sizing and has not been accounted for in these calcs.

Building Waste Main:	5
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2015 IPC Section 202: Bathroom Group: A group of fixtures consisting of a water closet, lavatory, bathtub or shower, including or excluding a bidet, an emergency floor drain or both. Such fixtures are located together on the same floor level.