

BLW ENGINEERS, INC.

MEMORANDUM

DATE: July 28, 2023.
FROM: BLW Engineers, Inc.
SUBJECT: 10 Sunnyside Ave
Arlington, MA
Water & Sewer Demands – Rev 0
COPIES TO: Files.

Please see below the breakdown of the water demands, based on the building's current layout and information currently in our possession. Type and quantity of plumbing fixtures are subject to change. The following report is based on information from the State Plumbing & Building Code and NFPA-13, latest editions.

Sanitary Sewer Load

Residential Units

Fixture Type	Quantity	Fixture Unit	Total Fixture Unit
Toilet (Flush Tank)	50	4	200
Toilet (Flush Valve)	2	6	12
Lavatory	52	1	52
Shower	43	2	86
Kitchen Sink	50	2	100
Dishwasher	50	1	50
Laundry	20	3	60
Floor Total Fixture Unit			560

Outside Dwelling Units

Fixture Type	Quantity	Fixture Unit	Total Fixture Unit
Mop Sink	5	3	15
Floor Drains	13	6	78
Total Fixture Unit			93

The total Fixture Unit for the Sanitary Sewer is: $560 + 93 = 653$

Plumbing code requires an 8-inch sewer service.

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Domestic Water Service

Residential Units

Fixture Type	Quantity	Factor Value	Total Factor Value
Toilet (Flush Tank)	50	1	50
Toilet (Flush Valve)	2	12	24
Lavatory	52	2	104
Shower	43	4	172
Kitchen Sink	50	4	200
Dishwasher	50	2	100
Refrigerator		0.5	
Laundry	20	4	80
Floor Total Factor Value			730

The Factor Value for the dwelling units is: 730

Demand Factor: 0.35

The total Factor Value for the dwelling units is: $730 \times 0.35 = 255.5$

Capacity value correlates to 79 GPM

Outside Dwelling Units

Fixture Type	Quantity	Factor Value	Total Factor Value
Mop Sink	5	4	20
Hose bib/ Wall Hydrants	13	2	26
Total Factor Value			46

The total expected water demand, outside of dwelling units is: 46

Demand Factor = 1.0

Capacity Value for water service to spaces outside units: $46 \times 1.0 = 46$

Capacity value correlates to 28 GPM

Total Factor Value for entire building: 301.5

Total demand to entire building: 90 GPM

Plumbing code requires a 4" incoming domestic water service. We recommend providing a 4" service.