

WATER DEMAND REPORT

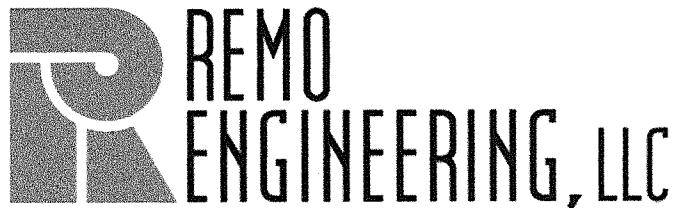
FOR

LOTS 9, 10, 11, 12, 13 AND 14 IN BLOCK 95

186 CHURCHILL AVENUE

TOWNSHIP OF FRANKLIN, SOMERSET COUNTY

NEW JERSEY



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DATE PREPARED: 10/5/20

FranklinTwp186ChurchillAveWaterDemandRpt10-5-20

PROJECTED WATER DEMAND COMPUTATIONS

THE PROJECTED DOMESTIC WATER DEMAND GENERATED FROM THE PROPOSED DEVELOPMENT TO BE SERVED BY THE EXISTING WATER MAIN ARE AS FOLLOWS:

ESTIMATED AVERAGE DAILY WATER DEMAND (Q)

ESTIMATED AVERAGE DAILY WATER DEMAND FOR SINGLE FAMILY DWELLING
= 100 GALLONS PER PERSON PER DAY (N.J.A.C. 7:10-12.6 TABLE 1)

NUMBER OF RESIDENTS PER DWELLING UNIT = 3.93
(4 BEDROOM SINGLE FAMILY DETACHED) (N.J.A.C. 5:21-5.2 TABLE 5.1)

$Q = 100 \text{ GALLONS/PERSON/DAY} \times 3.93 \text{ PEOPLE/UNIT} = 393 \text{ GPD/UNIT}$

NUMBER OF DWELLING UNITS = 3

$Q = 393 \text{ GPD/UNIT} \times 3 \text{ UNITS} = \mathbf{1,179 \text{ GPD}}$

ESTIMATED PEAK DAILY WATER DEMAND (Qp)

$Q_p = 3 \times \text{ESTIMATED AVERAGE DAILY WATER DEMAND}$

$Q_p = 3 \times 1,179 \text{ GPD} = \mathbf{3,537 \text{ GPD}}$

APPENDIX 1

N.J.A.C. 7:10-12.6
SAFE DRINKING WATER ACT RULES
AVERAGE DAILY WATER DEMAND TABLE 1

NOTE: THIS IS A COURTESY COPY OF THIS RULE. ALL OF THE DEPARTMENT'S RULES ARE COMPILED IN TITLE 7 OF THE NEW JERSEY ADMINISTRATIVE CODE.

TABLE 1: AVERAGE DAILY WATER DEMAND

	Type of Establishment	Gallons per person
1.	Cottage	100
2.	Single family dwelling	100
3.	Multiple family dwelling (apartment)	75
4.	Rooming house	50
5.	Boarding house*	75
	a. For each nonresident boarder	15
6.	Hotel*	50-75
7.	Motel or tourist cabin	50-75
8.	Mobile home park	100
9.	Restaurant**	
	a. Sanitary demand	5
	b. Kitchen demand	5
	c. Kitchen and sanitary demand	10
10.	Camp***	
	a. Barracks type	50
	b. Cottage type	40
	c. Day camp (no meal served)	15
11.	Day school*	
	a. No cafeteria or showers	10
	b. With cafeteria and no showers	15
	c. With cafeteria and showers	20
	d. With cafeteria, showers and laboratories	25
12.	Boarding school*	100
13.	Health care institution other than hospital	75-125
14.	Hospital (depending on type)	150-250
15.	Industrial facility (8 hour shift)	25
16.	Picnic grounds or comfort station	
	a. With toilet only	10
	b. With toilet and showers	15
17.	Swimming pool or bathhouse	10
18.	Club house*	
	a. For each resident member	60
	b. For each nonresident member	25
19.	Nursing home	150
20.	Campground	
	a. Without individual sewer hook-up	75 per site
	b. With individual sewer hook-up	100 per site
	c. With laundry facility and individual sewer hook-up	150 per site
21.	Store, office building	0.125 gal/sq. ft
22.	Self-service laundry	50 gal/wash

APPENDIX 2

N.J.A.C. 5:21-5.2
RESIDENTIAL SITE IMPROVEMENT STANDARDS
WATER SUPPLY
WATER DEMAND/GENERATION TABLE 5.1

N.J.A.C. 5:21-5.2

New Jersey Register, Vol. 49 No. 12, June 19, 2017

**New Jersey Administrative Code > TITLE 5. COMMUNITY AFFAIRS > CHAPTER 21.
RESIDENTIAL SITE IMPROVEMENT STANDARDS > SUBCHAPTER 5. WATER SUPPLY****§ 5:21-5.2 Capacity**

- (a) The water supply system shall be adequate to handle the necessary flow, based on complete development of the tract.
- (b) When plans for future development necessitate oversizing of the water supply system, the municipality or utility authority may enter into an agreement with the developer to address the fair share of the costs.
- (c) The demand rates for all uses shall be considered in computing the total system demand. Where fire protection is provided in accordance with (e) below, the system shall be capable of providing the required fire demand plus the required maximum daily residential demand, or the required fire demand plus the peak hour flows in Table 5.2, whichever is greater. The maximum daily demand shall be calculated by multiplying the average daily residential demand indicated in Table 5.1 by a factor of 1.5.
- (d) Average daily residential consumption shall be computed in accordance with the housing unit type and size data shown in Table 5.1. The peak daily flows shall be computed by applying a peaking factor of three times the average daily residential consumption. The municipality may require deviations in the peaking factor value provided appropriate documentation and justification for the deviation from the standards is provided.
- (e) The design of the on-site water distribution system shall be adequate to provide fire protection as per ISO standard, Fire Suppression Rating Schedule, or per AWWA M31, "Manual of Water Supply Practices--Distribution System Requirements for Fire Protection," ISO method on pages 3-9, incorporated herein by reference.

TABLE 5.1

WATER DEMAND/GENERATION BY

TYPE /SIZE OF HOUSING

Type/Size housing	Number of <u>residents</u>	Residential Water Demand<a> (daily) (gallons per day)
Single-family detached		
2 bedroom	2.13	215
3 bedroom	3.21	320

TABLE 5.1

**WATER DEMAND/GENERATION BY
TYPE /SIZE OF HOUSING**

Type/Size housing	Number of <u>residents</u>	Residential Water Demand<a> (daily) (gallons per day)
4 bedroom	3.93	395
5 bedroom	4.73	475
Garden Apartment		
1 bedroom	1.57	120
2 bedroom	2.33	175
3 bedroom	3.56	270
Townhouse		
1 bedroom	1.69	125
2 bedroom	2.02	150
3 bedroom	2.83	210
4 bedroom	3.67	275
High-rise		
studio	1.07	80
1 bedroom	1.34	100
2 bedroom	2.14	160
Mobile home		
1 bedroom	1.73	130
2 bedroom	2.01	150
3 bedroom	3.47	260

Notes: <a> Based on 100 gallons per person per day for single-family detached units and 75 gallons per person per day for other housing types (rounded).

Source: U.S. Census, Public Use File—New Jersey (Units built 1975-1980).