



Project Name: Aire Apartments - Bloomington
 Alliant Project No.: 219-0123.2
 Date: 2/16/2021
 By: Dave Nash
 (Flows Per Minnesota Administrative Rules 7081.0130)

Water and Sewer Flows by Use Type		Estimated Flow Per Unit in Gallons Per Day (GPD)	Enter Units	Calculated Sewer Flow in Gallons Per Day (GPD)	Enter Desired Factor	Peak	Peak Flow Calculations in Gallons Per Day (GPM)
(1) Dwelling units (also see outdoor recreation)							
Single Family (Townhome/Condo)	per dwelling (adjust for size of dwellings)	250	0	0.00	4		0.00
Single Family (Apartment)	per dwelling (adjust for size of dwellings)	200	323	64,600.00	4		179.44
(2) Commercial/Industrial							
(a) Retail store	square foot	0.13	9,457	1,229.41	1		0.85

Totals at Bottom
 Hide Unused Rows After Filling Out

Total Development Sewer Flows = **65,829 GPD**
 = **45.71 GPM**

With Peak Factors = **180.3 GPM**

Approximate Full Flow for 8" @ 0.40% = **450 GPM**
 Approximate Full Flow for 10" @ 0.28% = **700 GPM**
 Approximate Full Flow for 12" @ 0.28% = **1,000 GPM**

LINDELL ENGINEERING, INC.

3411 KILMER LANE NORTH
PLYMOUTH, MN 55441

16 February 2021

Tom Duffy
1652 Cliff Road East
Burnsville, MN 55337

Re: Aire Apartments / Crown Plaza
Bloomington, Minnesota

Mr. Duffy

The following is the estimated utility requirements for the project. The information is based on the Minnesota Plumbing Code unless otherwise noted.

Market Rate Apartments (229 Units)

2061 water supply fixture units = 325 GPM peak flow
229 units at 60 gallons/unit = 13,740 GPD
1832 sanitary sewer fixture units

Hotel (126 Units with kitchenettes)

1134 water supply fixture units = 210 GPM peak flow
126 units at 60 gallons/unit = 7560 GPD
1008 sanitary sewer fixture units

Common Space

223 water supply fixture units = 55 GPM peak flow
198 sanitary sewer fixture units

Retail (8000 sf)

15 water supply fixture units = 15 GPM peak flow
Water usage = 900 GPD
20 sanitary sewer fixture units

Building Total

3433 water supply fixture units = 470 GPM peak flow
Water usage = 22,200 GPD
3058 sanitary sewer fixture units

Please let us know if you have any further questions.

Tim Johnson