



June 23, 2022
Job No. 21-196

WATER & WASTEWATER DEMAND ANALYSIS

Farrell Wellington – Estates West
Village of Wellington Florida

SITE DATA

The subject parcel is generally located on the southwest corner of Forest Hill Boulevard and Polo Club Drive in the Village of Wellington, Florida and contains approximately 22.98 acres. The Property Control Numbers (PCN) for the subject parcel are as follows:

73-41-44-14-00-000-1020
73-41-44-14-00-000-3070

73-41-44-14-00-000-1060

Proposed site development on the currently unimproved parcel consists of 27 single-family dwelling units. The single-family dwelling units will consist of the following mix of unit sizes:

5 Bedroom Unit	-	5,500 SF
6 Bedroom Unit	-	5,952 SF

CONCLUSION

Potable water for the subject parcel will be provided via connection to the existing 8" water main adjacent to the east property line. New water lines for domestic water service and fire protection will be constructed on-site with a secondary connection to the 16" water main existing along the south side of Forest Hill Boulevard. Wastewater service will be provided by a new public lift station and connection to the existing force main along the west side of the property.

CONCLUSION (Continued)

Based on the total of 27 single-family dwelling units and the unit sizes outlined above, the water and wastewater demand can be calculated per the attached “Potable Water and Sanitary Sewer Average Day Projected Demand Table Worksheet – August 2020”. Based on the attached, the peak daily potable water demand will be 0.026 MGD and the wastewater peak daily demand will be 0.016 MGD.

It should be noted that as part of the development of the subject parcel, a future land use change designation is proposed. The existing future land use designation of Open Space Recreation will be modified to Residential “C” on the Village of Wellington Comprehensive Plan. The existing Open Space Recreation designation has minimal potable water demand and has not been quantified in this analysis. This analysis will only include the potable water demand associated with the Residential “C” designation.

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FL Reg. No. 68291

<p>Paul A. Buri, P.E., State of Florida, Professional Engineer, License No. 68291</p> <p>This item has been electronically signed and sealed by Paul A. Buri, P.E. on <u>07/01/2022</u> using a SHA-1 Authentication Code.</p> <p>Printed copies of this document are not considered signed and sealed and the SHA-1 Authentication Code must be verified on any electronic copies.</p>

Potable Water and Sanitary Sewer Average Day Projected Demand Table Worksheet- August 2020

TYPE OF ESTABLISHMENT	Number of Units	WW demand per unit (GPD)	Water demand per unit (GPD)	Avg WW Demand (GPD)	Avg Water Demand (GPD)
Complete Green Cells to Calculate Projected Average and Peak Demands					
Water to Wastewater average day Demand Factor (12 month rolling average) Updated October 1, 2018	1.63				
COMMERCIAL:					
Barber & beauty shops per service chair		75	122	0	0
Bowling alley bathroom waste only per lane		50	82	0	0
Country Club					
(a) Per resident		100	163	0	0
(b) Add Per member or patron		25	41	0	0
(c) Add Per employee per 8 hour shift		15	24	0	0
Doctor and Dentist offices					
(a) Per practitioner		250	408	0	0
(b) Add per employee per 8 hour shift		15	24	0	0
Food operations					
(a) Restaurant operating 16 hours or less per day per seat		40	65	0	0
(b) Restaurant operating more than 16 hours per day per seat		60	98	0	0
(c) Restaurant using single service articles only and operating 16 hour or less per day per seat		20	33	0	0
(d) Restaurant using single service articles only and operating more than 16 hours per day per seat		35	57	0	0
(e) Bar and cocktail lounge per seat		20	33	0	0
1. add per pool table or video game		15	24	0	0
(f) Drive - in restaurant per car space		50	82	0	0
(g) Carry out only, including caterers					
1. Per 100 square feet of floor space		50	82	0	0
2. Add per employee per 8 hour shift		15	24	0	0
(h) Institutions per meal		5	8	0	0
(i) Food Outlets excluding deli's, bakery, or meat department per 100 square feet of floor space		10	16	0	0
1. Add for deli per 100 square feet of deli floor space		40	65	0	0
2. Add for bakery per 100 square feet of bakery floor space		40	65	0	0
3. Add for meat department per 100 square feet of meat department floor space		75	122	0	0
4. Add per water closet		200	326	0	0
Hotels					
(a) Regular per room		100	163	0	0
(b) Resort hotels, camps, cottages per room		200	326	0	0
(c) Add for establishments with self-service laundry facilities per machine		750	1223	0	0
Office building					
1. per employee per 8 hour shift or		15	24	0	0
2. per 100 square feet of floor space, whichever is greater		15	24	0	0

TYPE OF ESTABLISHMENT	Number of Units	WW demand per unit (GPD)	Water demand per unit (GPD)	Avg WW Demand (GPD)	Avg Water Demand (GPD)
Service stations per water closet					
(a) Open 16 hours per day or less		250	408	0	0
(b) Open more than 16 hours per day		325	530	0	0
Shopping centers without food or laundry per square foot of floor space		0.1	0.16	0	0
Stadiums, race tracks, ball park per seat		4	7	0	0
Stores per bathroom		200	326	0	0
Theatres and Auditoriums, per seat		4	7	0	0
Veterinary Clinic					
(a) Per practitioner		250	408	0	0
(b) Add per employee per 8 hour shift		15	24	0	0
(c) Add per kennel, stall or cage		20	33	0	0
Warehouse					
(a) Add per employee per 8 hour shift		15	24	0	0
(b) Add per loading bay		100	163	0	0
(c) self-storage, per unit(up to 200 units)		1	2	0	0
1. Add 1 gallon for each 2 units or fraction thereof, for over 200 units, and shall be in addition to employees, offices or living quarters flow rates.		1	2	0	0
INSTITUTIONAL:					
Churches per seat which includes kitchen wastewater flows unless meals prepared on a routine basis		3	5	0	0
1. If meals served on a regular basis add per meal prepared		5	8	0	0
Hospitals per bed which does not include kitchen wastewater flows		200	326	0	0
1. add per meal prepared		5	8	0	0
Nursing, rest homes, adult congregate living facilities per bed which does not include kitchen wastewater flows		100	163	0	0
1. add per meal prepared		5	8	0	0
Parks, public picnic					
(a) With toilets only per person		4	7	0	0
(b) With bathhouse, shower & toilets per person		10	16	0	0
Public Institutions other than schools and hospitals per person which does not include kitchen wastewater flows		100	163	0	0
1. add per meal prepared		5	8	0	0
Schools per student					
(a) Day-type		10	16	0	0
(b) Add for shower		4	7	0	0
(c) Add for cafeteria		4	7	0	0
(d) Add for day school workers		15	24	0	0
(e) Boarding -type		75	122	0	0

TYPE OF ESTABLISHMENT	Number of Units	WW demand per unit (GPD)	Water demand per unit (GPD)	Avg WW Demand (GPD)	Avg Water Demand (GPD)
RESIDENTIAL					
(a) Single or multiple family per dwelling Unit					
1 Bedroom with 750 sq. ft. or less of building area		100	163	0	0
2 Bedroom with 751 - 1200 sq. ft. of building area		200	326	0	0
3 Bedroom with 1201 - 2250 sq. ft. of building area		300	489	0	0
4 Bedroom with 2251 - 3300 sq. ft. of building area	27	400	652	10800	17604
For each additional bedroom or each additional 750 square feet of building area or fraction thereof in a dwelling unit, system sizing shall be increase by 60 gallons per dwelling unit	7	60	98	420	684.6
(b) Other per occupant		50	82	0	0
OTHER CATEGORY NOT LISTED (ENGINEER TO PROVIDE BACKUP)				0	0
OTHER CATEGORY NOT LISTED (ENGINEER TO PROVIDE BACKUP)				0	0
OTHER CATEGORY NOT LISTED (ENGINEER TO PROVIDE BACKUP)				0	0
Summary of Average Day Wastewater and Water Demands (GPD) =				11220	18289
Summary of Average Day Wastewater and Water Demands (MGD) =				0.011	0.018

Summary of Peak Day Wastewater and Water Demands (MGD) = Average Daily Demand x 1.4 =	0.016	0.026
	(WW)	(Water)

[1] Systems serving high volume establishments, such as restaurants, convenience stores and service stations located near interstate type highways and similar high-traffic areas, require special sizing consideration due to expected above average volumes. The minimum estimated flows for these facilities shall be 3 times the volumes determined from the Demand Table Figures.