Kimley»Horn

October 11, 2024

Anjuli Panse, P.E.
Utilities Director
Village of Wellington Utilities
1100 Wellington Trace
Wellington FL 33414

RE: Isla Carroll Wellington
Water/Wastewater Demand Analysis

Dear Ms. Panse:

This letter is confirm the anticipated Water/Wastewater demand for the *Isla Carroll Wellington* project, located at the northwest corner of 120th Avenue and 35th Street, in the Village of Wellington, Palm Beach County, Florida.

The site is +/-79 acres and is a proposed Planned Unit of Development (PUD) with equestrian focused amenities. The PUD generally consists of 40 single family lots (ranging from 1/3 an acre to 2 acres) and country club amenities such as a clubhouse, pool, spa, fitness areas, multiple restaurants, pickleball courts, walking trails, equestrian trails, paddocks, stables, an event barn, riding rink, event lawn, and the internal roads, parking areas, and associated utility and stormwater infrastructure.

See the following breakdown for how each program use was categorized for the utility demand:

- *Country Club* for members (includes uses for clubhouse, pool(s), playground, fitness center, spa, racquet center, kids club, and activity barn)
- *Food Operations* (for main restaurants and pool bar) accounts for 400 indoor/outdoor seats
- *Spa Operations* accounts for a maximum us of 30 patrons per day at 250 gpd/person/day
- *Office* use for the proposed 10,720 SF business center and (2) 598 ST gatehouses.
- *Single Family Residential* (see supplemental spreadsheet attached for calculations)

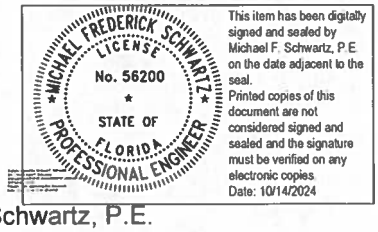
Table 1: Potable Water and Sanitary Sewer Average Day Projected Demand Summary

TYPE OF ESTABLISHMENT	Number of Units	WW demand per unit (GPD)	Water demand per unit (GPD)	Avg WW Demand (GPD)	Avg Water Demand (GPD)
Country club:					
(a) Per Resident	80	100	130	8000	10400
(b) Per member or patron	220	25	33	5500	7150
Food operations:					
(a) Restaurant operating 16 hours or less per day per seat	400	40	52	16000	20800
(e) Bar and cocktail lounge per seat	25	20	26	500	650

TYPE OF ESTABLISHMENT	Number of Units	WW demand per unit (GPD)	Water demand per unit (GPD)	Avg WW Demand (GPD)	Avg Water Demand (GPD)
Office building:					
Per 100 square feet of floor space	119	15	20	1787	2324
Spa:					
Number of Patrons per Day	30	250	325	7500	9750
Residential:					
4 Bedroom with 2251 - 3300 sq. ft. of building area	40	400	520	16000	20800
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	342	60	78	20538	26700
Summary of Average Day Wastewater and Water Demands (GPD) =				**75,826**	**98,574**
Summary of Average Day Wastewater and Water Demands (MGD) =				**0.076**	**0.099**
Summary of Peak Day Wastewater and Water Demands (MGD) = Average Daily Demand x 1.4 =				**0.106**	**0.138**

Please let me know if you have any questions.

Sincerely,



Michael F Schwartz, P.E.
Principal
FL. License #56200

Potable Water and Sanitary Sewer Average Day Projected Demand Table Worksheet- July 2022					
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	1.30				
COMMERCIAL:					
Barber & beauty shops per service chair		75	98	0	0
Bowling alley bathroom waste only per lane		50	65	0	0
Country Club*			0		
(a) Per resident	80	100	130	8000	10400
(b) Add Per member or patron	220	25	33	5500	7150
(c) Add Per employee per 8 hour shift		15	20	0	0
Doctor and Dentist offices			0		
(a) Per practitioner		250	325	0	0
(b) Add per employee per 8 hour shift		15	20	0	0
Food operations			0		
(a) Restaurant operating 16 hours or less per day per seat**	400	40	52	16000	20800
(b) Restaurant operating more than 16 hours per day per seat		60	78	0	0
(c) Restaurant using single service articles only and operating 16 hour or less per day per seat		20	26	0	0
(d) Restaurant using single service articles only and operating more than 16 hours per day per seat		35	46	0	0
(e) Bar and cocktail lounge per seat	25	20	26	500	650
1. add per pool table or video game		15	20	0	0
(f) Drive - in restaurant per car space		50	65	0	0
(g) Carry out only, including caterers			0		
1. Per 100 square feet of floor space		50	65	0	0
2. Add per employee per 8 hour shift		15	20	0	0
(h) Institutions per meal		5	7	0	0
(i) Food Outlets excluding deli's, bakery, or meat department per 100 square feet of floor space		10	13	0	0
1. Add for deli per 100 square feet of deli floor space		40	52	0	0
2. Add for bakery per 100 square feet of bakery floor space		40	52	0	0
3. Add for meat department per 100 square feet of meat department floor space		75	98	0	0
4. Add per water closet		200	260	0	0
Hotels			0		
(a) Regular per room		100	130	0	0
(b) Resort hotels, camps, cottages per room		200	260	0	0
(c) Add for establishments with self-service laundry facilities per machine		750	975	0	0
Office building			0		
1. per employee per 8 hour shift or		15	20	0	0
2. per 100 square feet of floor space, whichever is greater*	119	15	20	1787	2324
Service stations per water closet			0		
(a) Open 16 hours per day or less		250	325	0	0
(b) Open more than 16 hours per day		325	423	0	0
Shopping centers without food or laundry per square foot of floor space		0.1	0.13	0	0
Stadiums, race tracks, ball park per seat		4	5	0	0
Stores per bathroom		200	260	0	0
Theatres and Auditoriums, per seat		4	5	0	0
Veterinary Clinic			0		
(a) Per practitioner		250	325	0	0
(b) Add per employee per 8 hour shift		15	20	0	0
(c) Add per kennel, stall or cage		20	26	0	0
Warehouse			0		
(a) Add per employee per 8 hour shift		15	20	0	0
(b) Add per loading bay		100	130	0	0
(c) self-storage, per unit(up to 200 units)		1	1	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	1	0	0
INSTITUTIONAL:			0		
Churches per seat which includes kitchen wastewater flows unless meals prepared on a routine basis		3	4	0	0
1. If meals served on a regular basis add per meal prepared		5	7	0	0
Hospitals per bed which does not include kitchen wastewater flows		200	260	0	0
1. add per meal prepared		5	7	0	0
Nursing, rest homes, adult congregate living facilities per bed which does not include kitchen wastewater flows		100	130	0	0
1. add per meal prepared		5	7	0	0
Parks, public picnic			0		
(a) With toilets only per person		4	5	0	0
(b) With bathhouse, shower & toilets per person		10	13	0	0
Public institutions other than schools and hospitals per person which does not include kitchen wastewater flows		100	130	0	0
1. add per meal prepared		5	7	0	0
Schools per student			0		
(a) Day-type		10	13	0	0
(b) Add for shower		4	5	0	0
(c) Add for cafeteria		4	5	0	0
(d) Add for day school workers		15	20	0	0
(e) Boarding -type		75	98	0	0
RESIDENTIAL			0		
(a) Single or multiple family per dwelling Unit			0		
1 Bedroom with 750 sq. ft. or less of building area		100	130	0	0
2 Bedroom with 751 - 1200 sq. ft. of building area		200	260	0	0
3 Bedroom with 1201 - 2250 sq. ft. of building area		300	390	0	0
4 Bedroom with 2251 - 3300 sq. ft. of building area ***	40	400	520	16000	20800
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 ***	342	60	78	20538	26700
(b) Other per occupant		50	65	0	0
Spa (Max 30 People @ 250/GPD/Day)	30	250	325	7500	9750
OTHER CATEGORY NOT LISTED (ENGINEER TO PROVIDE BACKUP)				0	0
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Summary of Average Day Wastewater and Water Demands (GPD) =				75826	98574
Summary of Average Day Wastewater and Water Demands (MGD) =				0.076	0.099
Summary of Peak Day Wastewater and Water Demands (MGD) = Average Daily Demand x 1.4 =				0.106	0.138

RESIDENTIAL CALCULATIONS

	Lot size		45% Bldg coverage		number of homes					addtl SF over 3300	each 750 sf over 3300	60 gals for each 750 over 330	400 GPD for up to 3300 SF				TOTTAL
1)	1/3 acre																
	14520	SF	6534	SF Bldg	31	6534	(-)	3300	=	3234	4.312	258.72	400 +	258.72	=	658.72 x 31 homes =	20420.32
2)	1/2 acre																
	21780	SF	9801	SF Bldg	4	9801	(-)	3303	=	6498	8.664	519.84	400 +	519.84	=	919.84 x 4 homes =	3679.36
3)	1.5 acres and above																
	65340	SF (min size)	29403	SF Bldg (min)	5	29403	(-)	3306	=	26097	34.796	2087.76	400 +	2087.76	=	2487.76 x 5 homes =	12438.8
SUBTOTALS:					40												36538.48

(a) Single or multiple family per dwelling Unit

1 Bedroom with 750 sq. ft. or less of building area
2 Bedroom with 751 - 1200 sq. ft. of building area
3 Bedroom with 1201 - 2250 sq. ft. of building area
4 Bedroom with 2251 - 3300 sq. ft. of building area
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