



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)

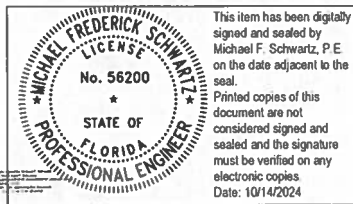
Table 1: Potable Water and Sanitary Sewer Average Day Projected Demand Summary

| 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 | | | | | |
| 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 |
| OTHER CATEGORY NOT LISTED (ENGINEER TO PROVIDE BACKUP) | | | | 0 | 0 |
| 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 | 55% Bldg Coverage | number of homes | add'l SF over 3300 | each 750 sf over 3300 | 60 gals for each 750 over 330 | 400 GPD for up to 3300 SF | TOTAL |
|---|---------------------|-----------------|--------------------|-----------------------|-------------------------------|---------------------------|---------------------------------|
| 1) 1/3 acre 14520 SF | 6534 SF Bldg | 31 | 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 | 6488 | 8,664 | 519.84 | 400 * 519.84 = | 919.84 x 4 homes = 3679.36 |
| 3) 1.5 acres and above 65340 SF (min site) | 29403 SF Bldg (min) | 5 | 26097 | 34,796 | 2087.76 | 400 * 2087.76 = | 2487.76 x 5 homes = 12438.8 |
| SUBTOTALS: | | | | | | | 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