

Wastewater Flow Estimation Guidelines for Sewer Capacity Certification Requests

Gwinnett County Department of Water Resources

As part of the Sewer Capacity Certification Request, this table shall be used to estimate the total wastewater flows anticipated from a proposed development. The estimated wastewater flow should include flows from all planned facilities for the proposed development, or any change in flow due to change in operation or units. If development-specific flow estimate information is available, please include the calculations, data sources, and/or references with the submittal packet. GCDWR may consider such calculations in lieu of the flows calculated based on the table below. GCDWR will perform system evaluation to determine capacity availability as well as potential impacts on the sewer system, and identify potential improvements needed to meet regulatory compliance and target Level of Service.

Typical Developments

- Determine the Annual Average Daily Flow (AADF) in gallons per day (gpd) for each category/facility included within the proposed development:
 - Identify the land use (residential, commercial, institutional, industrial, etc.), and the facility type (Column A) in the table below.
 - Identify the type of units (per square foot, per employee, etc.) shown in Column C based on the information available for the development.
 - Calculate the AADF based on the following formula (for commercial or community/institutional development, include the estimated flow based on potential maximum capacity for activities within the facility):
Number of units X Annual Average Daily Unit Flow (Column B) = Estimated AADF (gpd) for the proposed facility type
- Sum the estimated flows for all the facility types proposed within the development to calculate the Total AADF (gpd). Mixed-use developments should include estimated flows for all applicable land uses and facility types.
- Convert the Total AADF (gpd) for the development from Step 2 to gallons per minute (gpm) using the following calculation:
AADF (gpd) / 1440 = AADF (gpm)
- Check to see if additional categories (Column D) should be included in flow calculations. Omission of categories may result in processing delays for the Sewer Capacity Certification.

Industrial or Batch-release Developments

- For industrial facilities or developments that may include batch releases, include peak instantaneous flow from all potential processes. Specify whether the operation is for 8-hours, 24-hours, or other.

Developments Requiring Pump Stations (Private or Public)

- If a pump station is required, whether public or private, the pumping rate must also be listed in the calculations. GCDWR shall evaluate the impact of the pumped flows on the sewer system. The Sewer Capacity Certification may be issued for the pumping rate rather than the flow generated.
- A minimum 4.0 design peaking factor shall be applied to the AADF when designing new pump stations serving residential, commercial or community/institutional facilities. Pumping rates shall take into consideration the peak flows anticipated from a development.

Land Use Category and Facility Type		Annual Average Daily Unit Flow (gpd)	Per Unit	Additional categories that may be required
(Column A)		(Column B)	(Column C)	(Column D)
Residential Development and Related				
Residential Development Type	Apartment/Condo Studio or 1-bedroom	110	per unit	Pool, fitness center, clubhouse facilities
	Apartment/Condo 2-bedroom	155	per unit	
	Apartment/Condo 3-bedroom	205	per unit	
	Apartment/Condo more than 3 bedroom	250	per unit	
	Single Family Home	250	per unit	
	Townhome	250	per unit	
	Mobile Home	250	per unit	
	Senior Living / Assisted Living - 1 bedroom Apartment Group Home	110	per unit	
Clubhouse/Neighborhood Amenity Center	50	per 1000 sq ft	Food service, office, pool, fitness	
Country Club	175	per 1000 sq ft	Food service, office, gymnasium, pool	
Pool/Aquatic Center	5 25	per swimmer, max capacity per employee	Food service, office, retail	
Fitness Center	500	per 1000 sq ft	Food service, pool	
Gymnasium	500	per 1000 sq ft	Food service, pool	
Tennis, Soccer, Basketball Facility	10	per person, max capacity	Food service, pool	

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(Column A)		(Column B)	(Column C)	(Column D)	
Commercial Developments					
Bank		175 25	1000 sq ft per employee		
Barber Shop		50 25	per chair per employee		
Beauty Salon or Spa Center (hair, nails and/or massage)		125 25	per station per employee		
Carwash	Automatic bay - with recycling	3500 25	per bay per employee	Retail, office	
	Automatic bay - without recycling	1350 25	per bay per employee		
	Self-operating	350	per bay		
Flower Shop/Greenhouse/Urban Agriculture		*	per sq ft	(1)	
Food Service	Restaurant (sit-down)	55	per seat, max capacity		
	Restaurant (24-hr service)	110	per seat, max capacity		
	Coffee Shop	55	per seat, max capacity		
	Brewery		55		per seat, max capacity
			*		maximum batch discharge
	Dining Hall /Cafeteria	55	per seat, max capacity		
	Bar/Tavern/Cocktail Lounge	50	per seat, max capacity		
	Prep Kitchen (no customer service)	50	per 100 sq ft kitchen space		
	Walk-up Service/Carry-out	50	per 100 sq ft floor space		
	Drive thru/Drive-in	50	per parking space		
Food Truck	70	per truck			
Kiosk/Stand	50	per 100 sq ft floor space			
Funeral Home		5 250	per seat per preparation table		
Gas Station		250	per gas pump	Food service, retail	
Grocery/Food Store	Dry Goods	10	per 100 sq ft	Food service, bank, retail	
	Bakery	50	per 100 sq ft		
	Deli/Meal Preparation	50	per 100 sq ft		
	Meat Department/Butcher	75	per 100 sq ft		
	Seafood Department	75	per 100 sq ft		
	Produce Processing/Cutting	50	per 100 sq ft		
Laundry	Coin-operated	400	per washing machine		
	Commercial	640	per washing machine		
Lodging	Campground/RV Parks	100	per space	Office, pool, laundry	
	Hotel/Motel without in-room Cooking Facilities	100	per room	Food service, pool, auditorium, bar, office, laundry	
	Hotel/Motel with in-room Cooking Facilities	110	per room		
	Cabin/Cottage/Villa	155	per unit		
Office - General		175 25	1000 sq ft per employee (all shifts)	Food service, fitness center	
Pet Care Centers	Pet Store	100	per 1000 sq ft		
	Animal Shelters	20	per run, cage, kennel or stall		
	Veterinarian Center	500	per exam room/pen		
	Boarding Facility	20	per run, kennel or stall		
	Grooming Facility	500	per wash station		
Retail Shops	Store	100	per 1000 sq ft	Food service	
	Auto/Boat/RV Dealership	50	per 1000 sq ft		
	Kiosk	25	per employee		

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(Column A)		(Column B)	(Column C)	(Column D)
Commercial Developments (continued)				
Self-storage units		25	per employee (all shifts)	Residential, office, retail
Sports/ Fitness Centers	Bowling	125	per lane	Food service, pool
		25	per employee	
	Fitness Center	500	per 1000 sq ft	
	Tennis, Soccer, Basketball Facility	10	per person, max capacity	
	Gymnasium	500	per 1000 sq ft	
Theater	Skating Rink	5	per person, max capacity	Food service
	Movie	5	per seat	
	Drive-in	25	per bay	
Vehicle Service/Repair		50	per 1000 sq ft	Office, retail
		25	per employee	
Warehouse		25	per 1000 sq ft	Food service, office
		25	per employee (all shifts)	
Institutional Developments/Community Facilities				
Auditorium/Arena/Concert Hall/Convention Center		10	per person, max capacity	Food service
Community Assembly/Banquet Hall		10	per person, max capacity	Food service
Educational Facilities	K-12 school	20	per student	Food service, gymnasium, pool
		25	per teacher/employee	
	Boarding School/Dormitory	70	per student, resident employee	
	Tutoring Center	100	per 1000 sq ft	
	Day Camp/Daycare Center	20	per student	
		25	per teacher/employee	
	University/College/Technical School	20	per student	
	25	per employee		
	Laboratory	*	per laboratory classroom	
Library		100	1000 sq ft	Auditorium
		25	per employee (all shifts)	
Museum/Art Center/Visitor Center		2	per patron, max capacity	Food service, retail, office
Pool/Aquatic Center		5	per swimmer, max capacity	Food service, office, retail
		25	per employee	
Park/Fairground/Outdoor Assembly		15	per total parking spaces	Food service
Sports/Fitness Centers	Bowling	125	per lane	Food service, pool
		25	per employee	
	Fitness Center	500	per 1000 sq ft	
	Tennis, Soccer, Basketball Facility	10	per person, max capacity	
	Gymnasium	500	per 1000 sq ft	
	Skating Rink	5	per person, max capacity	
Transportation Terminal (Airport, bus, train)		5	per passenger	Food service, retail
		25	per employee	
Worship Center		10	per seat, max capacity	Food service, banquet hall, gymnasium, office, educational
Emergency Services	Fire Station	70	per firefighter per shift	Detention center
	Police Station	25	per employee (all shifts)	
	Shelters	70	per resident, max capacity	
Detention Center		120	per inmate, max capacity	Food service, office, gymnasium
		25	per employee (all shifts)	

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Institutional Developments/Community Facilities (continued)				
Hospital/Medical Care	Medical/Emergency	375 25	per bed per employee (all shifts)	Food service, office
	Mental Health	125 25	per bed per employee (all shifts)	
	Convalescent/Nursing Home	125 25	per bed per employee (all shifts)	
	Urgent Care Center	250 25	per bed per employee (all shifts)	
Office - General		175 25	1000 sq ft per employee (all shifts)	Food service, fitness center
Office - Medical/Dental		500 25	per 1000 sq ft per employee (all shifts)	
Industrial Developments/Batch Discharge Facilities				
Industry/Manufacturing		* 25	per industrial process per employee (all shifts)	Food service, office, warehouse
Batch Discharges		* 25	per maximum batch discharge per employee (all shifts)	Food service, office, warehouse
Other				
No Applicable Category		*	per plumbing fixture or process	(2)

* To be calculated individually based on specific usage

(1) If utilizing domestic water meter

(2) Fixtures = toilets, sinks, showers, etc.

Do not include the Wastewater Flow Estimation Guidelines in the Sewer Capacity Certification Request submittal.