

April 23, 2024

Mr. Franky Howard
Chief Executive Officer
Onslow Water and Sewer Authority
228 Georgetown Road
Jacksonville, NC 28540

Subject: Modification of Water and Sewer System Development Fees

Dear Mr. Howard:

In April 2023 Raftelis Financial Consultants, Inc. (“Raftelis”) completed an evaluation to develop cost-justified water and sewer system development fees for fiscal year (“FY”) 2024 for consideration by Onslow Water and Sewer Authority (“ONWASA”). The fees were calculated based on an approach for establishing system development fees set forth in North Carolina General Statute 162A Article 8 – “System Development Fees.”. The results of the analysis were documented in a report dated April 21, 2023.

Per the report, the Combined method was used to calculate the water and sewer system development fees for ONWASA, since in general, ONWASA’s existing water and sewer treatment facilities have some capacity to accommodate anticipated future growth and the capital improvements projects in the near-term are adding additional capacity to serve new customers. The following steps were completed to calculate the fees under the Combined Method: **[Note: Step 3]**

1. The replacement value of existing system facilities was calculated, and adjustments were made to derive a net replacement value estimate in accordance with Article 8. Adjustments to the calculated replacement value included deducting accumulated depreciation, developer contributions, and a portion of outstanding debt. The growth-related capital improvement projects were incorporated into the total system value, making adjustments to the calculated value to account for future debt to fund the projects. A combined net system value was calculated by adding together the net system asset replacement value (net of contributions) and the growth-related capital spending (net of grants), and subtracting the current outstanding principal and the future borrowing net present value.
2. The unit cost of system capacity was estimated by dividing the calculated system value from step 3 by the total capacity of the system. This includes the current capacity of the system (minus any capacity reserved for others by contract) plus any capacity added by the capital projects.
3. The amount of capacity assumed to be demanded by one service unit of new development was identified. One equivalent residential unit (“ERU”) was defined as the smallest service unit of new development.
4. The system development fee for one service unit of development was calculated by multiplying the cost per unit of system capacity by the capacity associated with one ERU, as defined below.

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- The calculated system development fee for one ERU was scaled for different categories of demand. Meter capacity ratios were used to scale system development fees from a base meter size, or the smallest unit of new development (one ERU), to different categories of demand, as defined by the different customer meter sizes.

It is Raftelis' understanding that ONWASA has recently made the decision to modify the capacity associated with one equivalent residential unit (ERU), defined as the smallest service unit of new development, for its water and sewer system. ONWASA had previously used 300 gallons per day per service unit for its water and sewer system engineering for planning purposes. ONWASA is now modifying this amount to reflect a reduced planning number of 225 gallons per day per service unit for sewer¹ and 208 gallons per day service unit for water².

To calculate the water and sewer system development fees based on this new level of sewer service, the cost per unit of water and sewer system capacity calculated in the original analysis (\$9.94 and \$19.82 per gallon per day for water and sewer, respectively) is multiplied by the revised capacity demanded by one ERU, as shown below.

Table 1: Calculation of Water and Sewer System Development Fees for One ERU

Description	WATER SYSTEM	SEWER SYSTEM
Net System Value	\$173,408,475	\$123,756,829
System Capacity (MGD)	17.44	6.24
Unit Cost of Capacity (\$ / gallon, per day)	\$9.94	\$19.82
Capacity Required for 1 ERU (gallons per day)	208	225
System Development Fee per ERU	\$2,063	\$4,460

The fee for one ERU of sewer capacity, which is equivalent to the 3/4" meter system development fee, becomes the building block for system development fees for larger meter sizes and categories of demand. Larger meter size fees are scaled off of the 3/4" meter using water meter capacity ratios. The scaling factors were based on rated meter capacities for each meter size, as published by the American Water Works Association in Principles of Water Rates, Fees, and Charges.³ The meter scaling factors are shown below with the newly calculated water and sewer system development fees.

¹ The sewer system service unit of 225 is based on 75 gallons per bedroom and the assumption of a three-bedroom home. Section 18 of Session Law 2023-137 modified the wastewater design flow rates in 15ANCAC02T.0114(b).

² The water system service unit of 208 is calculated based on the average water use for residential customers of 132 gallons per day (based on billing records), multiplied by the water system's average max day factor of 1.36 and the water system's average water loss factor of 1.16.

³ Manual of Water Supply Practices (M1), Principles of Water Rates, Fees, and Charges, American Water Works Association, 7th Edition, Table B-2 on p. 386.

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Table 2. Meter Capacities by Meter Size

Meter Size	Water Fee	Sewer Fee
3/4"	\$ 2,063	\$ 4,460
1"	\$ 3,438	\$ 7,432
1-1/2"	\$ 6,877	\$ 14,867
2"	\$ 11,003	\$ 23,785
3"	\$ 22,005	\$ 47,570
4"	\$ 34,384	\$ 74,329
6"	\$ 68,766	\$ 148,656
8"	\$ 110,026	\$ 237,850
10"	\$ 165,039	\$ 356,775

The system development fees shown in Table 2 represent the maximum cost justified level of system development fees that can be assessed by ONWASA per Article 8. If ONWASA chooses to assess fees that are less than those shown in the table, the adjusted fee amounts should still reflect the scaling factors by meter size, as shown in Table 6.

We appreciate the opportunity to assist ONWASA with the calculation of its system development fees. Should you have questions or need any additional information, please do not hesitate to contact me at 704-373-1199.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.



Elaine Conti
Executive Vice President