

Onslow Water & Sewer Authority
Board of Directors' Regular Meeting Jacksonville City Hall
Thursday, March 16, 2023
APPROVED MINUTES

CALL TO ORDER: Having a quorum, Chairman Royce Bennett called the meeting to order at 6:00 pm. Board members present included Chairman Royce Bennett, Vice Chairman Paul Conner, and Directors Timothy Foster, Joann McDermon, Robert Warden, and Jeff Wenzel. Absent was Secretary/Treasurer Pat Turner.

PLEDGE OF ALLEGIANCE: Chairman Royce Bennett led the Board and audience in the Pledge of Allegiance.

INVOCATION: Mr. Brian Young, Senior Pastor with Love Grace & Mercy Church provided the invocation.

CHAIRMAN'S REMARKS –Chairman Royce Bennett provided general guidance to the audience regarding the meeting.

1. APPROVAL OF AGENDA – Director Jerry Bittner made a motion to approve the agenda adding Item 6A Closed Session for personnel in accordance with State law. Director Tim Foster made a second. All were in favor. The agenda was approved as amended.

2. APPROVAL OF CONSENT AGENDA

[A COPY OF THE RESOLUTION TO AUTHORIZING ADVERTISING OF AUCTION BY ELECTRONIC MEANS ONLY, RESOLUTION AUTHORIZING SALE OF PERSONAL PROPERTY BY ELECTRONIC AUCTION & BID TAB MAY BE FOUND AT EXHIBIT A, AND ARE FULLY INCORPORATED HEREIN BY REFERENCE]

A motion was made by Director Paul Conner to approve the consent agenda. A second was made by Director Tim Foster. The motion passed unanimously. Therefore, the January & February 2023 Finance Reports and December, January & February 2023 Operations Reports were accepted, the January 19, 2023 Regular Meeting Minutes were approved as presented, the motion to authorize the Sale of Personal Property by Electronic Auction of the 2006 Rogers manufactured Modular Building and authorize the CEO to execute any documents as may be required in connection with the sale was approved, RFB #FY2023Chemicals was awarded to the lowest responsible bidders, Water Guard and Carus LLC for a period of six months beginning March 16, 2023 and the CEO was authorized to execute purchase contracts plus any other documents as may be required in connection with these purchase contracts.

3. BUSINESS

A. System Development Fee Study

[A COPY OF THE SYSTEM DEVELOPMENT FEE POWERPOINT PRESENTATION SLIDES MAY BE FOUND AT EXHIBIT B AND ARE FULLY INCORPORATED HEREIN BY REFERENCE]

Chairman Royce Bennett called on Ms. Elaine Vastis Conti, Executive Vice President – Raftelis to present the item. Ms. Conti began her presentation by explaining that System Development Fees are a one-time charge assessed against new development as a way to pay for facilities needed to support growth or to recoup costs for existing facilities. [EXHIBIT B, SLIDE 3] She went on to explain the requirements of the study based on the ratification of House Bill 436 signed into law on July 20, 2017. [EXHIBIT B, SLIDE 4] and the methodologies that are allowed under the legislation and which follow industry guidelines. She said there are three approaches, the first is the Buy-In Approach that

calculates the fee based on the existing infrastructure that you have already built explaining she calls that one kind of looking backwards it's what you already built, another approach is the Incremental/Marginal Cost Approach and that one is going to look forward and is going to be based on your capital improvement plan and the projects that you have identified the capital projects that are going to facilitate growth and the third method is to combine those two. Ms. Conti explained the methodology that we used for calculating the system development fees is the combined approach and we use that for both the water calculation and the sewer calculation, and the reason is the existing assets have some capacity to serve new customers but your capital improvement plan also identifies some significant capital projects to facilitate additional growth over the next several years so we use the combined approach. [EXHIBIT B, SLIDES 6 & 7] Ms. Conti provided an overview of the fee calculation that was based on the combined method previously explained. [EXHIBIT B, SLIDES 8 & 9]

Director Robert Warden asked for clarification on the less the future debt credit. Ms. Conti replied when we are looking at the capital improvement plan we have identified a portion that we know is going to be debt funded and so the way the legislation is written you have to take a debt credit so we have looked at the debt that we are assuming is going to take place every year over the next 30 years if assuming a 30 year bond and then we take the net present value to reflect what that is in today's dollars and that is the credit that we are taking as opposed to taking the entire outstanding principle balance. Director Warden followed up by asking how the debt gets paid down, on user fees? Ms. Conti replied that was exactly right because we are assuming since we will eventually be recovering it from water and sewer fees we have to back it out of the equation. Ms. Conti added since these assets will be debt funded you don't want them paying for it twice so that is what you are recognizing by taking the debt credit. Director Warden said if they are paying for it upfront and then paying for it in user fees [it would be paying for it twice]. Ms. Conti responded right.

Vice Chairman Conner asked if the number that is backed out for future debt credit is added back in for the rate study. Ms. Conti said that is exactly right.

Mr. Franky Howard, CEO, said there is a portion that would be cash funded and the system development fees will help cover annually the anticipated cash funding for projects which will not get covered in the rate model. Ms. Conti replied right if the \$177M [Growth Related CIP] was to be cash funded the legislation says you have to take at a minimum 25 percent so if this was cash funded this would be a much smaller number.

Ms. Conti went on to explain the Sewer Fee Scenarios. [EXHIBIT B, PAGES 11 & 12] She said the first scenario that is called the base case assumes Summerhouse/Holly Ridge assets continue to operate and capital projects that increase interim capacity of Summerhouse and other plants. She said scenario 1 is where we replace Summerhouse and Holly Ridge assets which is going to add a net capacity of almost 0.8MGD. Ms. Conti said scenario 2 is where we replace Summerhouse/Holly Ridge assets with a private acquisition which would cost 86.5 million that would net us a little over 2MGD.

Director Warden asked if this was net additional capacity not combined with our current is that a correct assumption or does that include the current capacity? He followed up or with the scenario 2 does that 2.1 include some current capacity that is already being used. Mr. Howard said some of it is being used but on the overall spreadsheet we give credit to all our capacity. Director Warden said okay so it is added to our current but it is not necessarily available capacity for future customers. Ms. Conti said that is correct. Ms. Conti said the other thing to keep in mind is under scenario 1 and 2 because these

assets eventually replace Summer House and Holly Ridge we backed out their capacity and we also back out those assets from our buy-in approach because you do not want to double count them because the new assets will replace the older assets.

Ms. Conti explained the sewer fee adjustments. [EXHIBIT B, SLIDE 12] Vice Chairman Paul Conner asked on line 2 and line 4 but specifically line 2 that extra five million so scenario 2 allows for growth of additional five million versus scenario 1 that is new clients from new tie ons? Ms. Conti responded that represents the cost of the projects required to facilitate the growth so in other words the difference goes back to the 86 and 81. [EXHIBIT B, SLIDE 11]

Ms. Conti explained the equivalent unit calculations. [EXHIBIT B, SLIDE 14] She provided calculations of the maximum system development fee for $\frac{3}{4}$ meter. Mr. Chuck Kitchen, Authority Attorney, added this is the maximum ONWASA can charge not what the Board has to charge. Ms. Conti replied yes thank you very much this is the maximum fee you could charge. If you wanted to assess a fee that is smaller you can certainly do that you just can't assess a fee that is higher than what is calculated here. Chairman Bennett asked if it is something we could change annually if we need to. Mr. Howard said he thinks one of the things that he mentioned in a Board update was if the Board chose to go with one of these options that are obviously higher it could be phased in over time but I think what you are asking is if we changed it we would have to do a new study. Mr. Kitchen added as long as you do not go above one of these numbers you would not have to do a new study. You could simply change it up until the five years but if you want to exceed one of these numbers you would have to do a new study. Chairman Bennett said so this is the maximum for five years. Director Warden said or until you do it again. Vice Chairman Paul Conner said just so we are clear these numbers follow the scenarios we covered so you can't pick scenario two and then charge scenario one numbers. Ms. Conti replied that is correct this is very dependent on the capital improvement plan.

Ms. Conti went on to explain once we get the fee for the $\frac{3}{4}$ meter we scale them up based on each meter sizes flow using the American Water Works Association standards for what those are so we use the flow rate for each meter relative to the $\frac{3}{4}$ inch meter and use that ratio and that is how we scale up the system development fee so they are based on standard flow rates for the water meters and it is similar on the sewer side. [EXHIBIT B, SLIDES 16 & 17]

Ms. Conti presented an alternative assessment example for residential multi family units. [EXHIBIT B, SLIDE 18 & 19] Chairman Bennett said this is for multi family residential not single family residential. Ms. Conti said that is right single family would stay at the fee that we have already calculated which is using the 300 gallons per day. Chairman Bennett asked if a duplex is multi family or quadruplex or how do you do that. Ms. Conti said I am not sure how you currently define multi users. Mr. Howard said it is definitely residential but I don't know that it specifies whether it is an apartment or duplex. Mr. Kitchen replied that is part of the ordinance. Mr. Howard said we do need to discuss the ordinance for a potential change in the way the ordinance reads for the ability to charge on a per unit basis which we have discovered other systems do such as City of Jacksonville here uses per unit but we would need to incorporate that into the ordinance.

Ms. Conti asked if there were any questions. Mr. Howard said this has to tie back to an official CIP that is part of the budget process or whatever is determined to be official so we have to make sure that occurs so whatever we decide in the budget and the CIP has to match that part of the study. Ms. Conti said that is correct. Chairman Bennett said so we are going to have to decide which one of these three scenarios to publish for the public hearing in 45 days. Mr. Howard said the public hearing date we are

recommending would align with our budget so we do have some time or more than the 45 days.

Director Robert Warden asked since we don't know exactly which scenario, we think we know but we don't know exactly so there is nothing that says we can't publish the higher rate and then we can set a lower rate at some point before we do our budget, is that correct? Mr. Kitchen said you will need to decide on a CIP and as part of the CIP you will have to make the decision at that time which one of these and I think that is what you were saying for April. Mr. Howard replied yes so, we could come back in April to discuss it further and have it published after that meeting.

Director Warden made a motion to table the item to discuss at the April workshop. Director McDermon said she would prefer that as well. Director Tim Foster made a second. All were in favor; the item was tabled for the April Special Meeting.

B. AUDIT SERVICES CONTRACT

Chairman Royce Bennett called on CEO, Franky Howard, to present the item. Mr. Howard began by saying there were six audit proposals received and based on the staff review it is recommended that the RFP for Audit Services be awarded to Mauldin & Jenkins. He went on to say they looked at the cost and the estimated cost for the five year period and based on that analysis and the criteria the recommendation is to go with Mauldin & Jenkins. Mr. Howard said Mauldin & Jenkins is the same firm that does the City of Jacksonville and they also do Cape Fear Public Utility. The Board excused Director Joann McDermon at 6:35 PM and she exited the meeting.

Director Robert Warden commented that there was not a whole lot of difference in the price. Mr. Howard replied that was right over the five-year period there was not a lot of difference in the price adding we did have to do estimates on what the firms who didn't provide cost for out years we did a 4% cost increase which seemed to be the average or at least our average of what we experienced with PBMares. Mr. Howard added upfront year one the one we are recommending is more expensive but they reduced their fee by ten thousand dollars in year two because there are a lot of upfront expenses.

Chairman Bennett said there isn't a lot of difference and with the issues we have had with audits in the past and he thinks all of them have had with their towns and cities we have got to get somebody that is actually going to do it and get it done on time.

Vice Chairman Paul Conner made a motion to award RFP for Audit Services FY2023 to Mauldin & Jenkins for the period of one year with up to four annual renewals beginning April 1, 2023. A second was made by Director Robert Warden. All were in favor, the motion passed unanimously.

C. Water System Capacity Update

[A COPY OF THE WATER SYSTEM CAPACITY UPDATE POWERPOINT PRESENTATION SLIDES MAY BE FOUND AT EXHIBIT C AND ARE FULLY INCORPORATED HEREIN BY REFERENCE]

Chairman Royce Bennett called on Mr. David M. Mohr, PE, COO, to present the item. Mr. Mohr said Mr. Howard asked him to provide a brief update on water system demand and treatment capacity and initiatives underway to address anticipated future needs. He said while the development of additional sewer treatment capacity remains a high priority increased development in the region poses its own challenges in the ONWASA water system. This map [EXHIBIT C, SLIDE 2] shows the location of the two treatment plants, Hubert and Dixon and lists their capacity. He added the capacity shown are the current permitted capacity and the capacity of 1.44MGD shown for the Black Creek

Wellfield is the total daily withdrawal allowed under the Central Coastal Plain Capacity Use Area restrictions. Mr. Mohr provided an overview of the water production by source from 1987 thru 2022 [EXHIBIT C, SLIDE 3]. Mr. Mohr pointed out the significant increase in demand over the last five years. He said what that translates into is that between 1987 and 2017 over 30 years potable water demand has doubled and since 2017 so the last five years there has been an increase of almost 30% so obviously development is having its impact. Mr. Mohr shared that monthly water production has reached 90% of maximum permitted capacity a total of seven times in the past four years and added without additional raw water sources and increased treatment capacity demand will reach permitted capacity in the next 5 to 6 years. Mr. Mohr provided information on the steps being taken to address demand. [EXHIBIT C SLIDES 5, 6, & 7]

Director Jerry Bittner asked Mr. Mohr to go back to slide 5 and expound on investigate alternative raw water sources including the use of brackish groundwater. Mr. Mohr said we are looking at drilling a brackish water well at the Dixon Plant and the second reference is a commercial operation adding they have had discussions with Martin Marietta on the Quarry operation on Union Chapel Church Road saying they pump a large quantity of water basically over the side on a regular basis and while ONWASA does not use surface water now we have talked to them about doing water samples and see what water quality is in the quarry. Mr. Mohr turned to Mr. Seth Brown, Treatment Facilities Administrator, and asked if he remembered what their discharge was and he replied up to 10 million gallons a day that just basically gets pumped out into receiving stream. Mr. Mohr said we have property on Union Chapel Church Road and actually our study of the water plan is looking at that site. Vice Chairman Paul Conner said he thought that was what we were looking into getting water from that quarry somehow. Mr. Mohr said we were looking at with the original proposal was to put a bunch of daisy chain of wells around the outside and try to pull the groundwater. Vice Chairman Conner said we have been looking into this around the quarry a long time. Mr. Mohr said yes we have been in discussion on and off for a while. Mr. Mohr also noted that the treatment of surface water is a lot tougher and that is why we are doing this initial testing and trying to see. Chairman Bennett said if you can treat brackish water and make it potable you should be able to use the surface water. Mr. Howard added we would have some heavy legislative hurdles and permitting issues because currently they do not allow this.

No action was taken.

4. PUBLIC COMMENT

There were no members of the public wishing to comment.

5. CHIEF EXECUTIVE OFFICER COMMENTS

Chairman Bennett called on CEO, Franky Howard, to provide comments. Mr. Howard thanked Mr. Mohr and staff for the Water System Capacity Update adding he feels it is important for the Board to receive regular updates particularly with capacity. Mr. Howard said to add to what Mr. Mohr said about PFAS we are monitoring that and the EPA did release their official guidelines yesterday on what we have to follow when it comes to PFAS at a meeting in Wilmington. Director Wenzel asked if the EPA set a specific value like parts per billion. Mr. Howard replied four parts per trillion which is basically nothing. Mr. Mohr added it is the lowest level that can be detected. Mr. Howard said there will be challenges in testing and of course the treatment options are limited and expensive. Mr. Howard said he participated in the Penslow Summit in Holly Ridge that is a project with Pender and Onslow County to discuss needs down there. He said ONWASA hosted the Economic Development Board meeting earlier in the day and provided a tour of the new lab facility. Mr. Howard said they are working on the engineering analysis for the Pluris

project with the firm that was selected to do that and anticipate having that back to the Board for the May meeting. He went on to say the Southeast project that was being worked on by the Wooten firm has been officially paused. Director Jerry Bittner asked if there was a target date for Pluris in terms of go or no-go. Mr. Howard replied we gave the group 60 days to provide that analysis so we would be prepared to present that to the Board in May so in May we will have the results of that with the goal of the Board to decide go or no-go. He said if it is a go then we would move to the next steps which is LGC approval. Mr. Howard said the development of the new Strategic Plan is underway and thanked the Board for their responses and noted approximately 87 surveys were received from employees. Mr. Howard said ONWASA along with other Authorities across the State who wanted to participate sent joint letters lobbying for the ability to use permanent license plates like other units of government use.

6 BOARD OF DIRECTOR'S COMMENTS

Chairman Bennett said Mr. Howard represented ONWASA admirably at the Penslow Economic Development Summit leading the utility and infrastructure discussion for the groups.

No other Directors wished to make comments.

A. CLOSED SESSION

Chairman Bennett called for a motion to enter into closed session pursuant to NCGS 143-381.11(a)(3) to discuss the performance of a public official. Director Jeff Wenzel made the motion. The motion was seconded by Vice Chairman Paul Conner. All were in favor. The Board entered closed session at 6:56 PM.

Director Paul Conner made a motion to enter open session and seal the closed session minutes. A second was made by Director Tim Foster. All were in favor. The Board entered back into open session at 7:11 PM.

A motion was made by Director Tim Foster to adjourn the meeting. The motion was seconded by Director Jerry Bittner. A second was made by Director Tim Foster. All were in favor.

The meeting was adjourned at 7:14 PM.

The minutes were approved on May 18, 2023.

Onslow Water & Sewer Authority Board of Directors



Michael Royce Bennett, Chairman

ATTEST:

Heather Norris, Clerk

ONSLow WATER AND SEWER AUTHORITY

Resolution Authorizing Advertising of Electronic Auction by Electronic Means Only

Whereas G.S. 162A-6 (10) authorizes the Onslow Water and Sewer Authority (ONWASA) to conduct public auctions of real or personal property by electronic auctions procedures and to advertise electronic auctions by electronic means only; and

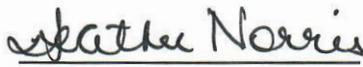
Whereas the ONWASA Board of Directors finds that advertising electronic auction sales of real and personal property by electronic means only increases the efficiency of property disposal by this method and saves rate payer's dollars;

Now therefore, be it resolved the ONWASA Board of Directors approves the following:

1. All sales of real and personal property by electronic public auction may be advertised by electronic means only.
2. Electronic advertisements of the sale of personal property shall be posted at least 10 calendar days prior to the date on which bidding for the property opens.
3. Electronic advertisements of the sale of real property shall be posted at least 30 calendar days prior to the date on which bidding for the property opens.
4. Electronic advertisements shall be posted on the ONWASA website and, where feasible, by any other electronic means through which notice of the electronic auction may be broadly advertised.
5. Electronic advertisements shall identify and provide a general description of the property to be sold, the date and time at which electronic bidding opens, the electronic address where information about the property to be sold can be found, the electronic address where electronic bids may be posted, a reference to the resolution authorizing the sale where applicable, and any other relevant terms and conditions of sale.

Adopted on this 16th day of March, 2023.

Attest:


Heather Norris, Clerk




Michael R. Bennett, Chairman

ONslow WATER AND SEWER AUTHORITY

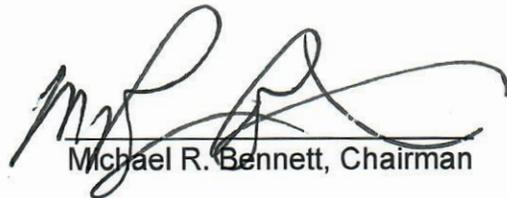
Resolution Authorizing Sale of Personal Property by Electronic Auction

Whereas G.S. 162A-6 (10) allows the Board of Directors of Onslow Water and Sewer Authority to sell personal property at an electronic auction upon adoption of a resolution or order authorizing the appropriate official to dispose of the property at electronic auction;

Whereas, the CEO has recommended the Modular Laboratory, which formerly housed the ONWASA Laboratory, as shown in Exhibit A, should be sold at electronic auction as surplus property; now therefore,

Be it resolved, by the Onslow Water and Sewer Authority Board of Directors that the CEO or his designee is authorized to sell by electronic auction @ www.govdeals.com, beginning March 27, 2023 @ 8 a.m. and ending April 13, 2023 @ 5:00 p.m., the surplus property described on Exhibit A. The terms of the sale are defined at www.govdeals.com. The CEO or his designee is directed to publish at least once and not less than ten (10) days before the date of the auction, a copy of this resolution or a notice summarizing its content as required by North Carolina General Statute 162A-6 (10).

Adopted on this 16th day of March 2023.



Michael R. Bennett, Chairman

Attest:



Heather Norris, Clerk



EXHIBIT A

28' X 60' 2006 Rogers Manufactured Modular Building



Onslow Water and Sewer Authority

System Development Fee Study Update

March 16, 2023



AGENDA

1. Description of System Development Fees (SDF)
2. Impetus of study
3. Process to adopt fees
4. Overview of fee calculation and resulting fees
5. Questions



WHAT ARE SYSTEM DEVELOPMENT FEES?

One-time charge assessed against “**new development**” as a way to pay for “**facilities**” needed to support growth or to recoup costs for existing **facilities** .



IMPETUS OF THE STUDY

Ratification of House Bill 436 – “An Act to provide for uniform authority to implement system development fees for public water and sewer systems in North Carolina...”

- Signed into law on July 20, 2017
- Amended Chapter 162A, Article 8 of the General Statutes “System Development Fees”
- Sets forth process for establishing system development fees
- Requires preparation by a “financial professional or licensed professional engineer...”
- *Requires update of the study every 5 years*
- *Revisions have been made to original legislation since 2017*



PROCESS TO ADOPT FEES

- ✓ Calculate System Development Fees based on written analysis
 - 45 days prior to consideration of adoption, post written analysis on Web site and solicit written comments
 - Preparer to consider written comments
 - Conduct public hearing to adopt fees
 - Publish fees in annual budget, rate plan, or ordinance



ALLOWED METHODOLOGIES FOR FEE CALCULATION

1. Buy-In Approach

- Focuses on existing facilities with available capacity to serve new customers
- Analysis based on fixed asset records

2. Incremental/Marginal Cost Approach

- Focuses on additional facilities required to meet anticipated growth
- Analysis based on capital improvement plan

3. Combined Approach



METHODOLOGY USED

Combined for both the Water System & Sewer System

- Existing assets have some capacity to serve new customers for both systems
- Both systems have additional growth-related capital improvement projects



OVERVIEW OF FEE CALCULATION

1. Determine methodology to be used
2. Identify cost of facilities
3. Consider/make adjustments as necessary
4. Derive system development fee per service unit
5. Establish equivalency or conversion table for various categories of demand



COST OF FACILITIES

Replacement Cost New Less Depreciation (RCNLD)	
Asset Category	Water
Assets	\$135M
Less: Specific Assets, Contributed Capital	-\$42M
TOTAL NET ASSETS (RCNLD)	\$93M

Replacement Cost New Less Depreciation (RCNLD)	
Asset Category	Sewer
Assets	\$190M
Less: Specific Assets, Contributed Capital	-\$64M
TOTAL NET ASSETS (RCNLD)	\$126M

- Start with net book value (NBV) of all fixed assets
- Escalate NBV to today's dollars based on service date
- Calculate replacement cost new less depreciation
- Remove some assets (meters, equipment, vehicles, etc.) and contributed/grant funded capital.

WATER FEE ADJUSTMENTS

Water System	Value
Net Plant Value (RCNLD)	\$93M
Plus: Growth Related CIP	\$177M
Less: Outstanding Principal	-\$17M
Less: Future Debt Credit	-\$80M
NET WATER SYSTEM VALUE	\$173M



Sewer Fee Scenarios

- **Base case:** Assume Summerhouse/Holly Ridge assets continue to operate and capital projects that increase interim capacity of Summerhouse and other plants
- **Scenario 1 :** Replace Summerhouse/Holly Ridge assets with \$81M new SE WWTP which add 0.776 MGD of net capacity
- **Scenario 2 :** Replace Summerhouse/Holly Ridge assets with \$86.5M system gained from private acquisition which adds 2.10 MGD of net capacity



SEWER FEE ADJUSTMENTS

Sewer System	Base Case	Scenario 1	Scenario 2
Net Plant Value (RCNLD)	\$126M	\$100M	\$100M
Plus: Growth Related CIP	\$47M	\$115M	\$120M
Less: Outstanding Principal	-\$40M	-\$40M	-\$40M
Less: Future Debt Credit	-\$19M	-\$52M	-\$57M
NET SEWER SYSTEM VALUE	\$114M	\$123M	\$124M



COST PER UNIT (GALLON)

	Water	Sewer Base Case	Sewer Scenario 1	Sewer Scenario 2
Net System Value	\$173M	\$114M	\$123M	\$124M
Total Capacity (MGD)	17.44	3.75	4.53	6.24
Cost per Gallon per Day (GPD)	\$9.94	\$30.33	\$27.21	\$19.82



EQUIVALENT UNIT CALCULATIONS

- SDF fees are assessed based on meter size
- The equivalent residential unit is a singlefamily customer on the following basis
 - North Carolina DHEC state standards of 120 gallons per bedroom per day
 - Based on number of people per household in county (2.6), assume the average of 2 and 3 bedroom house, or 300 gallons per day
 - Calculates 1 Equivalent Residential Unit (ERU) or ¾” meter residential fee
- Fees scaled by meter size based on AWWA meter equivalency factors



Maximum SDF Fee for ¾" Meter

	Water	Sewer Base Case	Sewer Scenario 1	Sewer Scenario 2
Cost per Gallon per Day (GPD)	\$9.94	\$30.33	\$27.21	\$19.82
ERU (gallons per day)	300	300	300	300
Maximum SDF Fee for ¾" Meter	\$2,983	\$9,099	\$8,162	\$5,947
Current SDF fee for ¾" Meter	\$2,032	\$3,700	\$3,700	\$3,700



FEE CALCULATIONS- WATER

Meter Size	Current	Max Calculated	Difference (\$)	Difference (%)
¾"	\$ 2,032	\$ 2,983	\$ 951	47%
1"	\$ 3,386	\$ 4,971	\$ 1,585	47%
1.5"	\$ 6,773	\$ 9,943	\$ 3,170	47%
2"	\$ 10,836	\$ 15,907	\$ 5,071	47%
3"	\$ 21,672	\$ 31,814	\$ 10,142	47%
4"	\$ 33,863	\$ 49,710	\$ 15,847	47%
6"	\$ 67,725	\$ 99,419	\$ 31,694	47%
8"	\$ 108,360	\$ 159,071	\$ 50,711	47%
10"	\$ 162,540	\$ 238,606	\$ 76,066	47%



FEE CALCULATIONS– SEWER SC 1

Meter Size	Current	Max Calculated	Difference (\$)	Difference (%)
¾"	\$ 3,700	\$ 8,162	\$ 4,462	121%
1"	\$ 6,167	\$ 13,605	\$ 7,438	121%
1.5"	\$ 12,333	\$ 27,208	\$ 14,875	121%
2"	\$ 19,733	\$ 43,533	\$ 23,800	121%
3"	\$ 39,467	\$ 87,067	\$ 47,600	121%
4"	\$ 61,667	\$ 136,042	\$ 74,375	121%
6"	\$ 123,333	\$ 272,082	\$ 148,749	121%
8"	\$ 197,333	\$ 435,332	\$ 237,999	121%
10"	\$ 283,667	\$ 625,791	\$ 342,124	121%



ALTERNATIVE ASSESSMENTS

- Assess fee per housing *unit*, not meter size, for residential customers based on number of bedrooms per unit
 - Example – A new apartment building would be charged for each unit, not by the master meter size
- Assess fee for non-residential customers by meter size or by state guideline flows



ALTERNATIVE ASSESSMENTS EXAMPLES

Residential Customers	Gallons	Water (\$9.94 per gallon)	Sewer Base (\$30.33 per gallon)	Sewer Sc1 (\$20.44 per gallon)	Sewer Sc2 (\$19.42 per gallon)
Multi-Family 1 or 2 - bedrooms	240	\$ 2,386	\$ 7,297	\$ 6,350	\$ 4,758
Residential 3 bedrooms	300	\$ 2,983	\$ 9,099	\$ 8,162	\$ 5,947



State Guidelines

15A NCAC 02T .0114 WASTEWATER DESIGN FLOW RATES

(a) This Rule shall be used to determine wastewater flow rates for all systems governed by this Subchapter unless alternate criteria are provided by a program-specific rule or for flow used for the purposes of 15A NCAC 02H .0105. Higher flow rates shall be required where usage and occupancy are atypical, including those in Paragraph (e) of this Rule. Wastewater flow calculations shall take hours of operation and anticipated maximum occupancies and usage into account when calculating peak flows for design.

(b) In determining the volume of sewage from dwelling units, the flow rate shall be 120 gallons per day per bedroom. The minimum volume of sewage from each dwelling unit shall be 240 gallons per day and each additional bedroom above two bedrooms shall increase the volume by 120 gallons per day. Each bedroom or any other room or addition that can function as a bedroom shall be considered a bedroom for design purposes. When the occupancy of a dwelling unit exceeds two persons per bedroom, the volume of sewage shall be determined by the maximum occupancy at a rate of 60 gallons per person per day.

(c) The following table shall be used to determine the minimum allowable design daily flow of wastewater facilities. Design flow rates for establishments not identified below shall be determined using available flow data, water-using fixtures, occupancy or operation patterns, and other measured data.

Type of Establishments	Daily Flow For Design
Barber and beauty shops	
Barber Shops	50 gal/chair
Beauty Shops	125 gal/booth or bowl
Businesses, offices and factories	
General business and office facilities	25 gal/employee/shift
Factories, excluding industrial waste	25 gal/employee/shift
Factories or businesses with showers or food preparation	35 gal/employee/shift
Warehouse	100 gal/loading bay
Warehouse – self storage (not including caretaker residence)	1 gal/unit
Churches	
Churches without kitchens, day care or camps	3 gal/seat
Churches with kitchen	5 gal/seat
Churches providing day care or camps	25 gal/person (child & employee)
Fire, rescue and emergency response facilities	
Fire or rescue stations without on site staff	25 gal/person
Fire or rescue stations with on-site staff	50 gal/person/shift
Food and drink facilities	
Banquet, dining hall	30 gal/seat
Bars, cocktail lounges	20 gal/seat
Caterers	50 gal/100 sq ft floor space
Restaurant, full Service	40 gal/seat
Restaurant, single service articles	20 gal/seat
Restaurant, drive-in	50 gal/car space
Restaurant, carry out only	50 gal/100 sq ft floor space
Institutions, dining halls	5 gal/meal
Deli	40 gal/100 sq ft floor space
Bakery	10 gal/100 sq ft floor space
Meat department, butcher shop or fish market	75 gal/100 sq ft floor space

Thank you!

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Elaine Conti

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FEE CALCULATIONS– SEWER BASE

Meter Size	Current	Max Calculated	Difference (\$)	Difference (%)
¾"	\$ 3,700	\$ 9,099	\$ 5,399	146%
1"	\$ 6,167	\$ 15,165	\$ 8,998	146%
1.5"	\$ 12,333	\$ 30,328	\$ 17,995	146%
2"	\$ 19,733	\$ 48,525	\$ 28,792	146%
3"	\$ 39,467	\$ 97,053	\$ 57,586	146%
4"	\$ 61,667	\$ 151,644	\$ 89,977	146%
6"	\$ 123,333	\$ 303,286	\$ 179,953	146%
8"	\$ 197,333	\$ 485,259	\$ 287,926	146%
10"	\$ 283,667	\$ 697,561	\$ 413,894	146%



FEE CALCULATIONS– SEWER SC 2

Meter Size	Current	Max Calculated	Difference (\$)	Difference (%)
¾"	\$ 3,700	\$ 5,947	\$ 2,247	61%
1"	\$ 6,167	\$ 9,912	\$ 3,745	61%
1.5"	\$ 12,333	\$ 19,823	\$ 7,490	61%
2"	\$ 19,733	\$ 31,717	\$ 11,984	61%
3"	\$ 39,467	\$ 63,435	\$ 23,968	61%
4"	\$ 61,667	\$ 99,117	\$ 37,450	61%
6"	\$ 123,333	\$ 198,232	\$ 74,899	61%
8"	\$ 197,333	\$ 317,172	\$ 119,839	61%
10"	\$ 283,667	\$ 455,936	\$ 172,269	61%





MSRB REGISTERED
**MUNICIPAL
ADVISOR**

Raftelis is a Registered Municipal Advisor within the meaning as defined in Section 15B (e) of the Securities Exchange Act of 1934 and the rules and regulations promulgated thereunder (Municipal Advisor Rule).

However, except in circumstances where Raftelis expressly agrees otherwise in writing, Raftelis is not acting as a Municipal Advisor, and the opinions or views contained herein are not intended to be, and do not constitute “advice” within the meaning of the Municipal Advisor Rule.

WATER SYSTEM UPDATE

March 16, 2023



ONWASA Well Fields

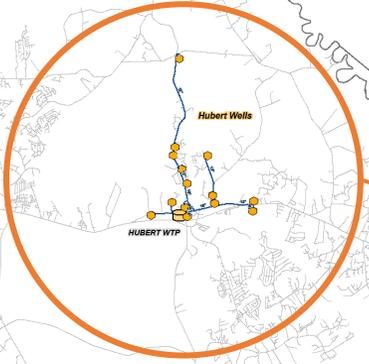
1 inch = 1 mile



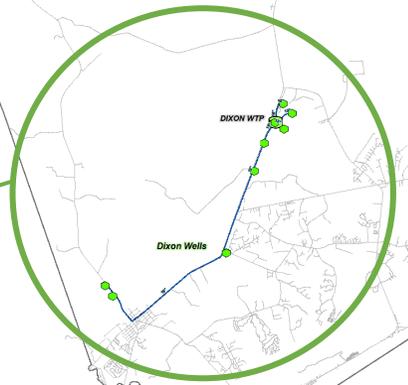
BLACK CREEK
WELLFIELD
1.44 MGD Capacity
12 Active Wells



HUBERT WTP
6.0 MGD Capacity
14 Active Wells



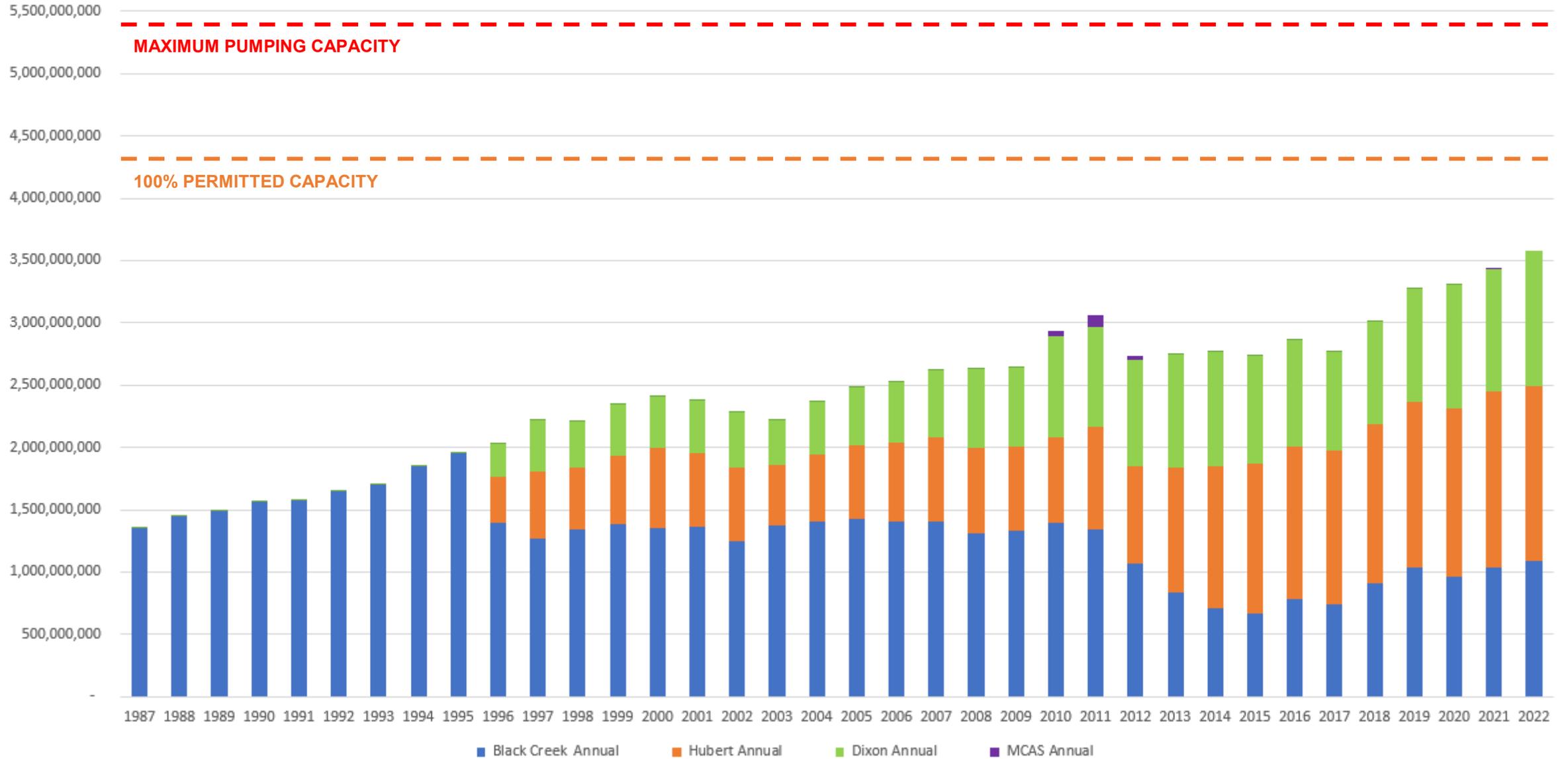
DIXON WTP
4.0 MGD Capacity
10 Active Wells



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ONWASA Water Production By Source



WATER DEMAND STATISTICS

- ❖ Between 1987 and 2017 (30 years), potable water demand in Onslow County doubled.
- ❖ Since 2017 (5 years), there has been a 29% increase in potable water demand.
- ❖ Monthly water production has reached 90% of maximum permitted capacity a total of seven (7) times in the past four years.
- ❖ Without additional raw water sources and increased treatment capacity, demand will reach permitted capacity in the next 5 to 6 years.

STEPS BEING TAKEN TO ADDRESS DEMAND

1. INCREASE RAW WATER SOURCES

- ❖ Work with a hydrogeological firm on improvements to increase capacity at selected existing wells in the Hubert wellfield.
- ❖ Schedule and complete the drilling of three (3) test wells as a first step to increasing capacity in the Dixon wellfield.
- ❖ Investigate alternative raw water sources, including the use of brackish groundwater and surface water currently discharged from commercial operations.

STEPS BEING TAKEN TO ADDRESS DEMAND

2. INCREASE TREATMENT CAPACITY

- ❖ Evaluate options and implement project(s) to increase the capacity of the Dixon WTP from 4.0 to 6.0 MGD through modifications to existing plant process equipment.
- ❖ Perform site feasibility assessments and process design for the future construction of a new 6.0 MGD water treatment facility in northwest Onslow County.

STEPS BEING TAKEN TO ADDRESS DEMAND

3. IMPROVE THE WATER DISTRIBUTION SYSTEM

- ❖ Complete design and permitting for the Highway 24 Transmission Main Project, to increase the ability to move water from the Hubert WTP to other portions of the ONWASA service area.
- ❖ Begin preliminary design for a future Transmission Main Project along Highway 17 that will provide the same benefit from the Dixon WTP.
- ❖ Update and utilize ONWASA's existing Distribution System Hydraulic Model to identify future projects to optimize system performance and locate new treatment and/or storage facilities.

THANK YOU

