

CITY OF MONROE
PUBLIC ENTERPRISE COMMITTEE
300 W. CROWELL STREET, MONROE, NC 28112
TUESDAY, NOVEMBER 5, 2024 - 4:00 PM
AGENDA
www.monroenc.org

1. Public Enterprise Committee Meeting Minutes of October 1, 2024
2. NCDOT TIP Project BR-0049, Concord Avenue Bridge over Hwy 74/NC200 Replacement - NCDOT Utility Constructions Request
3. Contract Award - Curtis Street Area Main Replacement Project
4. Lead and Copper Rule Revision (LCRR) Compliance Update
5. Army Corps Water Infrastructure Financing Program Update
6. Town of Mooresville Potential Interbasin Transfer Request
7. Rate Study and System Development Fee Update

Public Enterprise Committee Minutes
October 1, 2024
City Hall Conference Room
4:00 p.m.

Members Present: Council Member James Kerr (Chair), Council Member Julie Thompson,
Council Member Franco McGee, Council Member Surluta Anthony

Staff: Mark Watson, Lisa Hollowell, Terry Sholar, Scott Clark, Rob Miller, Lisa
Strickland, Sarah McAllister, Zachary Baker, Sam Starnes, Dali Santiago

Council Member James Kerr called the October 1, 2024 Public Enterprise Committee meeting to order at 4:03 p.m.

Item #1: Adoption of Minutes of the September 3, 2024 Meeting

Recommendation:

Council Member James Kerr asked if anyone had any questions or concerns about the minutes, if not, if anyone would like to make a motion that the minutes of the June 4, 2024 Public Enterprise Committee be approved.

Motion: Adopt September 3, 2024 meeting minutes

Motion made by: Council Member James Kerr

Second: Council Member Julie Thompson

Voting: **In Favor** – Council Member James Kerr, Council Member Julie Thompson, Council Member Franco McGee
Opposed – None

Action: Motion approved

Item #2: Bill Adjustment – Commercial and Industrial Stormwater Utility Accounts

Recommendation:

Stormwater Department is recommending Public Enterprise Committee to consider information regarding the City of Monroe updating stormwater utility fees for commercial and industrial accounts that have been under billed due to error or permitted and unpermitted impervious surface increases. Some account have also been found to be over charged due to error.

Presentation and Discussion:

Sam Starnes, Stormwater Engineering Associate advised that beginning in January 2009, the City of Monroe began billing stormwater utility fees for all developed properties within its city limits. The fee is billed to the active utility account or accounts associated with the parcel. The stormwater utility fees for commercial and industrial accounts are based on the total square footage of impervious surface associated with a particular structure and the utility accounts serving the structure. When impervious surface is added on a site, the fee is updated once a

Certificate of Occupancy (CO) or Certificate of Completion (CC) is issued and an as-built drawing of the site is received.

With recently updated aerial imagery, stormwater staff identified several accounts that have not been properly updated to reflect the correct impervious surface areas associated with the respective accounts. This identified the need for an audit on all commercial and industrial sites to check, and if necessary, correct the stormwater utility fees. In total, 725 commercial accounts and 45 industrial accounts were identified as being under-billed. There were 87 commercial and 7 industrial accounts being over-billed. In total, the amount collected per month from all corrected accounts is proposed to increase by \$10, 630.59.

Staff is preparing letters to send to owners of accounts that will experience increases of greater than \$25.00 per month. This includes 62 commercial and 14 industrial accounts. All accounts being overbilled will be sent letters and refunded the difference in corrected fees for 1 year of utility charges, per the stormwater utility ordinance. The total cost for this one time refund will be \$28,269.99.

Staff recommends that the City waive back billing for undercharges for the remainder of this calendar year for property that is found to be under billed or not billed. This practice will be used until January 1, 2025, at which point the future reference point for collecting under billed charges or charges not assessed will be January 1, 2025. Credits will continue to be given for all overcharges, not to exceed a one-year period.

Information was provided to the Public Enterprise Committee for informational purposes only.

Item #3: Request to Award the Purchase of a Tractor with a Boom Mower

Recommendation:

Engineering Department is requesting the Public Enterprise Committee to consider the purchase of a tractor with a boom mower for the Engineering Department – Stormwater – Street Division.

Presentation and Discussion:

Sarah McAllister, Engineering Director provided details regarding the replacement of two 2010 tractors, one with a boom mower, included in the Stormwater budget for FY 25. The tractor used to pull a bush hog was budgeted at \$50,000 and the tractor with a boom mower was budgeted at \$100,000. A 2024 model tractor to pull the bush hog has been identified that meets all the needs and specifications for the Street Division. The total before tax was \$48,029.22 and the Street Division has moved forward with that purchase through James River Equipment.

Another quote was received from James River Equipment for a John Deere 6120E Cab Tractor with a boom mover attachment in the amount of \$163,346.03. Funds are available in the Stormwater Reserves account to cover the cost overrun from what was included in the Capitalized Motor Vehicle account.

The budget amendment covers the transfer of the necessary funds from the Stormwater Reserves and the transfer of Powell Bill Reserves for the previously approved purchase of a flusher truck that was budgeted at \$181,000 and the quote received was for \$185,054.83.

Motion: Approve the award of the tractor with a boom mower in the amount of \$163,346.03 to James River Equipment, approve Budget Amendment GA-2024-27, and authorize the City Manager to executed any and all necessary documents.

Motion made by: Council Member James Kerr

Second: Council Member Julie Thompson

Voting: **In Favor** – Council Member James Kerr, Council Member Julie Thompson, Council Member Franco McGee

Opposed – None

Action: Motion approved

Item #4: US 74 and US 601 S Improvement Project

Recommendation:

Public Enterprise Committee is requested to consider adopting a resolution in support of a North Carolina Department of Transportation (NCDOT) project to make intersection improvements to US 74 and US 601 S.

Presentation and Discussion:

The intersection of US 74 and US 601 S was submitted by City Staff and Union County through the Charlotte Regional Transportation Planning Organization's (CRTPO) 2026 – 2035 Transportation Improvement Program Development P7.0 process. NCDOT staff began looking at the traffic volumes and saw the potential to greatly improve the intersection without much cost. Using volumes from recent Traffic Impact Analysis (TAI) study that took into account growth and some nearby approved developments and used that data to evaluate the intersection for possible configuration improvements. The results of the analysis identified the improvements that would improve the overall function of the intersection. NCDOT is proposing to install triple northbound lefts from US 601 and dual eastbound right turn lanes on US 74. The modifications would improve the overall level of service queueing length. The modifications can fit within the existing footprint of the roadways, eliminating the need for costly right-of-way acquisitions and utility relocations.

To create this construction project the NCDOT requires a resolution of support from the local municipality. There is no requirement for a local funding match associated with this project.

Motion: Approve the Resolution (R-2024-69) supporting NCDOT's project to improve the intersection of US Highway 74 and US Highway 601 South and forward to City Council for consideration on the October 8, 2024 Consent Agenda for approval.

Motion made by: Council Member Julie Thompson

Second: Council Member Franco McGee

Voting: **In Favor** – Council Member James Kerr, Council Member Julie Thompson, Council Member Franco McGee
Action: **Opposed** – None
Motion approved

Item #4: Energy Services Department Presentation on Mutual Aid Assistance during Disasters

Presentation and Discussion:

City Manager Mark Watson discussed the need to refresh our understanding about our obligations as a City in terms of providing assistance. In some cases there are contractual agreements for mutual aid. All situations mutual aid requests come through different obligations with the City.

Mr. Rob Miller, Director of Energy Services, discussed the two mutual aid agreements with American Public Power Association (APPA) and Electricities. The power company in need contacts either of those two and they will send out a request for staff and determine where they are needed with the resources available. Mr. Miller went on to further explain how various energy providers provide services and how the use of mutual aid is handled.

Mr. Watson went on to explain that the City of Asheville, through their cooperative on the water/sewer side, has made a request. Mr. Clark stated that the request for mutual aid was put in through the North Carolina Water/Wastewater Agency Response Network (WARN). The NC Rural Water Association manages the network. The request for mutual aid has come in for assistance with flushing mains, pipe repairs, staffing within plants. Many cities have lost their water treatment facilities and currently have no fire protection systems. The sewer is operated through Buncombe County and there is currently no information provided on their specific challenges.

Mr. Clark advised that Water Resources is in a position to release a crew to assist and still maintain our needs here at home. He further stated that all Water Resources staff has completed all FEMA required training and other training identified in the agreement. To do this, we will need to have the WARN agreement signed. Mr. Watson requested direction from Public Enterprise Committee regarding the execution of the Agreement and will discuss the Agreement with other Council Members.

James Kerr, Chair

Next Meeting – November 5, 2024



STAFF REPORT

TO: Public Enterprise Committee

VIA: William M. Watson, City Manager

DATE: November 5, 2024

FROM: Scott E. Clark, Director of Water Resources

PREPARED BY: Richard Riser, Water Resources Engineering Manager

SUBJECT: NCDOT TIP Project BR-0049, Concord Avenue Bridge over Hwy74/NC200 Replacement – NCDOT Utility Construction Request

SUMMARY STATEMENT

The PEC is requested to consider a Utility Construction Request (UCR) for utility relocation of existing water and sewer facilities along Hwy74/NC200 as well as Concord Avenue in coordination with an NCDOT bridge replacement project.

REVIEW

The NCDOT is in the early stages of design and right-of-way acquisition for their TIP Project BR-0049, which involves replacing Concord Avenue bridge over Hwy 74/NC200. This project includes demolishing the existing bridge and construction of a new bridge due to the existing bridge age and it is approaching the end of useful service life. As part of the bridge replacement, multiple City of Monroe water and sewer facilities that will be impacted and will require relocation.

Due to the nature of NCDOT projects of this sort, it is best to coordinate the design and work for the relocated water and sewer facilities with the NCDOT throughout the project undertaking. This coordination includes utilizing an NCDOT approved engineering firm to do the design as well as having the water and sewer facilities relocation incorporated in the NCDOT contract for the bridge replacement. Without this coordination, the City of Monroe would be required to complete the design in conjunction with NCDOT design and obtain the services of a contractor to do the water and sewer relocation in sequence with the construction activities of the NCDOT bridge contractor.

Currently, according to NCDOT policy, municipalities with utilities encroaching in an NCDOT right-of-way are required to pay a portion of the cost for relocation of the utilities. This portion is based upon population. The City of Monroe, with a population below 50,000 would need to pay 25% of the relocation cost. Once population reaches 50,000 the percentage increases to 50%.

The UCR is the document produced by NCDOT to allow for government bodies to request such coordination. This document is used to make a request once plans are finalized and the NCDOT has an estimate of cost. Once the request is made, there will be an agreement executed between the NCDOT and the City of Monroe. This agreement will include an estimated cost, with final cost being based upon actual cost of engineering, right-of-way acquisition and construction. Funding will be appropriated at the time of the agreement

RECOMMENDATION

It is the recommendation of Staff that Public Enterprise Committee take the following action:

Staff recommends authorization for the City Manager to sign the UCR and recommends forwarding to City Council for consideration on the November 18, 2024 consent agenda.

Attachments:

NCDOT Utility Construction Request – Project WBS and TIP No. 67049.1.1, BR-0049

NCDOT UTILITY CONSTRUCTION REQUEST

DATE: _____
PROJECT WBS and TIP NO: _____
COUNTY: _____
PROJECT DESCRIPTION: _____

TO: *Name & Title* _____
NCDOT Utility Representative

_____ (the “Owner”) owns facilities on the above referenced project. Owner understands that certain utility facilities may require relocation to accommodate this project. Owner is requesting that the North Carolina Department of Transportation (NCDOT) includes the relocation of the following facilities in the highway construction contract that may be in conflict or required for the project:

- ☐ Water utilities ☐ Sewer utilities
☐ Gas utilities ☐ Other (specify): _____

UTILITY RELOCATION DESIGN

Check the applicable box below:

- ☐ A. Owner requests NCDOT, through its own forces or contracted firm, to perform the relocation design and permitting services and obtain authorization to construct from NCDEQ or regulating agency and agrees to the following:

Owner will review and provide comments for milestone design deliverables within fifteen (15) calendar days of submittals. Milestone design deliverables include but may not be limited to: Preliminary Alignment Plans; Advanced Alignment Plans and Profiles; and Final Plans and Special Provisions. Non-responsiveness or failure to respond within this timeframe by Owner indicates Owner’s acceptance of design submittals as provided.

- ☐ B. Owner intends to self-perform or contract with a professional engineering firm to complete the required relocation design and authorization to construct. In doing such Owner agrees to provide the following to NCDOT in accordance with NCDOT’s [Utilities Accommodation Manual \(UAM\)](#) and project schedule:

1. Preliminary Utility Construction Estimate
2. Preliminary Utility Construction Plans
3. Geotechnical Investigation (Trenchless) Request
4. Utility Easement Request and Utility Parcel List
5. Advanced Utility Construction Estimate
6. Utility Agreement Plans
7. Water/Sewer Permit Applications
8. Utility Construction Plans and Project Special Provisions
9. Approved Water/Sewer Permit Applications
10. Final Utility Construction Plans

All designs shall be developed:

- a. By a professional engineering firm [Prequalified by NCDOT](#) to perform the following Consulting Discipline Codes as required:
 - 00173 Public Water Distribution Systems
 - 00174 Public Water Transmission Systems
 - 00202 Sanitary Sewer Force Main & Pump Stations
 - 00203 Sanitary Sewer Collection Systems
 - 00204 Sanitary Sewer Outfall Systems

A current listing of Prequalified firms can be found on [NCDOT's Directory of Firms - Prequalified Consultants](#); and

- b. In Bentley MicroStation or OpenRoads Designer "ORD" format (.dgn) as required, and in the same project coordinate system and unit of measure. Electronic .dgn files and PDF plans meeting project requirements shall be submitted as deliverables. AutoCAD files and MicroStation or ORD files converted from AutoCAD will not be accepted.

The name of the NCDOT Prequalified professional engineering firm that Owner intends to contract with for design purposes is listed below:

Quality control firms that perform reviews of design plans developed for the Owner do not need to be Prequalified by NCDOT.

UTILITY BETTERMENT

Check the applicable box below:

- ☐ A. Owner is not requesting any utility betterments as part of this request.
- ☐ B. Owner is requesting the following utility betterments as part of this request:

By executing this UTILITY CONSTRUCTION REQUEST, Owner agrees to the following:

1. Owner has reviewed NCDOT's most current version of the [Utility Construction Agreement](#), [Use and Occupancy Agreement](#), [Utility Preliminary Engineering Agreement - Payable](#), [Utility Preliminary Engineering Agreement - Receivable](#), [Standard Specifications for Roads and Structures](#), and [Roadway Standard Drawings](#). Furthermore, Owner acknowledges the terms, conditions, specifications and provisions included within said documents and agrees to use NCDOT's most current contract document(s) available at the time of execution.
2. Reimbursement of design and relocation costs to NCDOT or to Owner will be determined in accordance with Section 4.4 of NCDOT's UAM.
3. Owner understands that NCDOT owns the construction contract, construction plans and construction methods. NCDOT is constructing the requested facilities on behalf of the Owner. Owner agrees to provide NCDOT with all available

information required for the analysis of the existing facilities and the design of the facilities to be relocated. This information will be provided without condition or restriction and may include but is not limited to: system records, design plans, capacity studies, maintenance records, as-built records, CCTV inspection reports/videos, and executed permits. The Owner retains ownership of the facilities constructed by NCDOT both during and after construction.

4. NCDOT reserves the right to not include all or a portion of the relocation work in the contract if the Owner is not meeting its obligations under this request, or if NCDOT determines that inclusion of the relocation work, betterment, or new facilities is not in the best interest of the project.

Owner (officer/director)

[print] _____ [MUNICIPAL SEAL]

[signature] _____

[title] _____

Owner (witness)

[print] _____

[signature] _____

[title] _____

NCDOT

[print] _____

[signature] _____

[title] _____

MEMORANDUM



TO: MARK WATSON, CITY MANAGER

FROM: STEPHEN BUCHANAN ON BEHALF OF SCOTT CLARK

SUBJECT: CURTIS STREET AREA WATER LINE REPLACEMENT

DATE: NOVEMBER 5, 2024

CC: SCOTT CLARK, WATER RESOURCES DIRECTOR

The City of Monroe was awarded \$1,375,000 in American Rescue Plan Act (ARPA) grant funding. To remain in compliance with ARPA's conditions, the City of Monroe is required to have the funds encumbered by December 31, 2024. The Curtis Street Area was identified based on a number of factors that follow ARPA guidelines. The project consists of replacing approximately 3,300 linear feet of existing 8-inch water line, 950 linear feet of existing 6-inch water line, and 1,600 linear feet of existing 2-inch water main in the Curtis Street area. For this contract, staff is recommending award to Dawn Development Company, Inc. in the amount of \$1,445,879.05. The contract period is for (200) days.



STAFF REPORT

TO: Public Enterprise Committee

VIA: William M. Watson, City Manager

DATE: November 5, 2024

FROM: Scott Clark, Water Resources Director

PREPARED BY: Stephen Buchanan, Water Resources Senior Engineer

SUBJECT: Budget Ordinance and Contract Award – Curtis Street Area Main Replacement Project

SUMMARY STATEMENT

Public Enterprise Committee is requested to consider a contract award for the replacement of approximately 3,300 linear feet of existing 8-inch water line, 950 linear feet of existing 6-inch water line, and 1,600 linear feet of existing 2-inch water line in the Curtis Street area. The Public Enterprise Committee is requested to consider a Budget Ordinance in the amount of \$60,330 for the Curtis Street Area Water Line Replacement Project.

REVIEW

The Water Resources Department received formal bid proposals on November 1, 2024 for Curtis Street Area Water Main Replacement Project. The project involves the replacement of approximately 3,300 linear feet of existing 8-inch water line, 950 linear feet of existing 6-inch water line, and 1,600 linear feet of existing 2-inch water line in the Curtis Street area and related appurtenances.

Responsive bids were received from the following qualified contractors (Bid Tabulation sheet is attached):

Contractor	Proposal
Dawn Development Company, Inc.	\$1,445,879.05
State Utility Contractors, Inc.	\$2,855,191.90

For this Contract, staff is recommending award to Dawn Development Company, Inc. in the amount of \$1,445,879.05. The contract period is two hundred (200) days.

This project is being paid for by the American Rescue Plan Act (ARPA) which the City of Monroe was awarded a \$1,375,000 grant to design and replace the existing water line infrastructure in the Curtis Street Area. To comply with the terms in the ARPA grant funding, the City of Monroe is required to have the funds encumbered by December 31, 2024. An additional \$60,326.05 is needed to cover completion and construction of the project and a Budget Ordinance is requested to provide this funding.

RECOMMENDATION

It is the recommendation of Staff that Public Enterprise Committee take the following action:

Motion to approve Budget Ordinance BO-2024-15 and recommends a motion to award the contract for the Curtis Street Area Main Replacement to Dawn Development Company, Inc., in the amount of \$1,445,879.05, authorization for the City Manager to execute the necessary documents and send to Council for approval on the November 18th consent agenda.

Attachments:

Contract for Construction Services for the Curtis Street Area Main Replacement Project
Bid Tabulation
BO-2024-15

**CAPITAL PROJECT BUDGET ORDINANCE
CURTIS STREET AREA WATER LINE REPLACEMENT PROJECT
BO-2024-15**

WHEREAS, the City desires to provide reliable, water service to the citizens of Monroe; and

WHEREAS, it is imperative to effectively maintain and operate the Monroe Water Distribution System and related regulatory compliance to support current and future demand; and

WHEREAS, a detailed analysis identified additional construction measures to the original scope of the Curtis Street Area Water Line Replacement Project; and

WHEREAS, the original funds allocated from the American Rescue Plan Act (ARPA) was \$1,375,000; and

WHEREAS, the Curtis Street Water Line Replacement Project construction bid was submitted by Dawn Development Company, Inc. on November 1, 2024 in the amount of \$1,445,879.05; and

WHEREAS, Including investment earnings and the issuance of the design and construction administration contract, the net available balance in this project is \$1,385,553 which is short by \$60,326; and

WHEREAS, it is recommended that \$60,330 be transferred from the Water and Sewer Fund to fund the remaining portion of the project.

NOW, THEREFORE, BE IT ORDAINED that the City Council hereby provides additional funding for the Monroe Curtis Street Water Line Replacement Project ARP014 as follows:

Water & Sewer Fund:

Revenues:

Appropriation of Fund Balance	\$ 60,330
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Expenses:

Transfer to American Rescue Plan Project Fund	\$ 60,330
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American Rescue Plan Capital Project Fund:

Revenues:

Transfer from Water and Sewer Fund	\$ 60,330
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Expenditures

Capital Improvements ARP014	\$ 60,300
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Adopted this 18th day of November, 2024.

Attest:

Robert A. Burns, Mayor

Bridgette H. Robinson, City Clerk

CLIENT: City of Monroe
 PROJECT: Curtis Street Area Water Line Replacement (100% Design)
 Prepared by: Seth Shearon
 Checked by: Thomas Bach
 DATE: 11/1/2024



Bid Tabulation
 Bid Opening Date: 11/1/2024

ITEM	DESCRIPTION	QTY	UNITS	Dawn Development		State Utility	
				UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
1	Mobilization and Bonding	1	LS	\$ 50,000.00	\$ 50,000.00	\$ 125,000.00	\$ 125,000.00
2	2" PVC Water Line (SDR 13.5)	1629	LF	\$ 78.00	\$ 127,062.00	\$ 197.00	\$ 320,913.00
3	6" PVC Water Line (C900 DR14)	836	LF	\$ 103.00	\$ 86,108.00	\$ 240.00	\$ 200,640.00
4	8" PVC Water Line (C900 DR14)	2598	LF	\$ 123.00	\$ 319,554.00	\$ 237.00	\$ 615,726.00
5	6" DIP Water Line (PC 350) Restrained Joint	80	LF	\$ 123.00	\$ 9,840.00	\$ 280.00	\$ 22,400.00
6	8" DIP Water Line (PC 350) Restrained Joint	713	LF	\$ 143.00	\$ 101,959.00	\$ 275.00	\$ 196,075.00
7	2" DR9 HDPE Water Line (HDD Method)	45.5	LF	\$ 25.00	\$ 1,137.50	\$ 350.00	\$ 15,925.00
8	2" Valve	7	EA	\$ 1,200.00	\$ 8,400.00	\$ 1,200.00	\$ 8,400.00
9	6" Valve	6	EA	\$ 1,600.00	\$ 9,600.00	\$ 2,100.00	\$ 12,600.00
10	8" Valve	15	EA	\$ 2,400.00	\$ 36,000.00	\$ 3,200.00	\$ 48,000.00
11	12" Valve	3	EA	\$ 3,200.00	\$ 9,600.00	\$ 5,700.00	\$ 17,100.00
12	2" Air Release Valve (w/ Manhole)	2	EA	\$ 6,500.00	\$ 13,000.00	\$ 8,000.00	\$ 16,000.00
13	1" Air Release Valve (w/ Manhole)	3	EA	\$ 5,500.00	\$ 16,500.00	\$ 5,250.00	\$ 15,750.00
14	12"x 8" Tapping Sleeve and Valve	2	EA	\$ 10,000.00	\$ 20,000.00	\$ 11,000.00	\$ 22,000.00
15	2" Tap on 6" Water Line	1	EA	\$ 500.00	\$ 500.00	\$ 3,000.00	\$ 3,000.00
16	2" Tap on 8" Water Line	4	EA	\$ 750.00	\$ 3,000.00	\$ 3,100.00	\$ 12,400.00
17	2" Tap on 12" Water Line	3	EA	\$ 1,000.00	\$ 3,000.00	\$ 4,600.00	\$ 13,800.00
18	Remove Existing Fire Hydrant Assembly (w/ Line Plug)	7	EA	\$ 2,500.00	\$ 17,500.00	\$ 2,900.00	\$ 20,300.00
19	Proposed Fire Hydrant Assembly	9	EA	\$ 7,500.00	\$ 67,500.00	\$ 12,500.00	\$ 112,500.00
20	2" Blowoff Assembly	3	EA	\$ 2,000.00	\$ 6,000.00	\$ 3,000.00	\$ 9,000.00
21	Connect to Existing 4" Water Line	1	EA	\$ 3,000.00	\$ 3,000.00	\$ 6,500.00	\$ 6,500.00
22	Connect to Existing 6" Water Line	1	EA	\$ 4,000.00	\$ 4,000.00	\$ 7,500.00	\$ 7,500.00
23	Connect to Existing 8" Water Line	1	EA	\$ 4,000.00	\$ 4,000.00	\$ 8,000.00	\$ 8,000.00
24	Connect to Existing 12" Water Line	1	EA	\$ 5,000.00	\$ 5,000.00	\$ 23,000.00	\$ 23,000.00
25	8" Fire Line Meter	1	EA	\$ 15,000.00	\$ 15,000.00	\$ 60,000.00	\$ 60,000.00
26	8" DIP Water Service Line (PC 350)	180	LF	\$ 90.00	\$ 16,200.00	\$ 235.00	\$ 42,300.00
27	2" Water Meter	1	EA	\$ 7,500.00	\$ 7,500.00	\$ 14,500.00	\$ 14,500.00
28	2" PVC Water Service Line	180	LF	\$ 25.00	\$ 4,500.00	\$ 170.00	\$ 30,600.00
29	3/4" Water Service Line & Box (Short Side)	27	EA	\$ 1,200.00	\$ 32,400.00	\$ 1,500.00	\$ 40,500.00
30	1" Water Service Line & Box (Long Side)	25	EA	\$ 1,800.00	\$ 45,000.00	\$ 3,000.00	\$ 75,000.00
31	2" Water Service Line & Box	1	EA	\$ 15,000.00	\$ 15,000.00	\$ 13,500.00	\$ 13,500.00
32	6" Reconnect Fire Line	2	EA	\$ 4,000.00	\$ 8,000.00	\$ 4,800.00	\$ 9,600.00
33	8" Reconnect Fire Line	1	EA	\$ 5,000.00	\$ 5,000.00	\$ 8,100.00	\$ 8,100.00
34	2" Reduced Pressure Backflow Preventer (Above Ground)	1	EA	\$ 6,000.00	\$ 6,000.00	\$ 12,000.00	\$ 12,000.00
35	8" Reduced Pressure Backflow Preventer (Above Ground)	1	EA	\$ 30,000.00	\$ 30,000.00	\$ 50,000.00	\$ 50,000.00
36	Replace in Place 6" DIP Sanitary Gravity Sewer	180	LF	\$ 90.00	\$ 16,200.00	\$ 380.00	\$ 68,400.00
37	Cut and Replace Asphalt Road	1,400	SY	\$ 80.00	\$ 112,000.00	\$ 185.00	\$ 259,000.00
38	Water Line Testing and Disinfection	1	LS	\$ 20,000.00	\$ 20,000.00	\$ 13,000.00	\$ 13,000.00
39	Permanent Seeding	1,100	SY	\$ 2.50	\$ 2,750.00	\$ 1.00	\$ 1,100.00
40	Silt Fence	4,750	LF	\$ 3.50	\$ 16,625.00	\$ 5.00	\$ 23,750.00
41	Inlet Protection	10	EA	\$ 2,000.00	\$ 20,000.00	\$ 175.00	\$ 1,750.00
42	Traffic Control	1	LS	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00
				Subtotal	\$ 1,314,435.50	Subtotal	\$ 2,595,629.00
				10% Contingency	\$ 131,443.55	10% Contingency	\$ 259,562.90
				Total	\$ 1,445,879.05	Total	\$ 2,855,191.90



STAFF REPORT

TO: Public Enterprise Committee
VIA: William M. Watson, City Manager
DATE: November 5, 2024
FROM: Scott E. Clark, Director of Water Resources
PREPARED BY: Steve Buchanan, Water Resources Senior Engineer
SUBJECT: Lead and Copper Rule Revision (LCRR) Compliance Update

SUMMARY STATEMENT

The Lead and Copper Rule Revision (LCRR) was enacted by the Environmental Protection Agency (EPA) on December 16, 2021, and requires all water systems across the United States to submit a water service line inventory by October 16, 2024.

REVIEW

The City of Monroe has a population of approximately 35,523 residents, served by 15,135 water service laterals (domestic, irrigation, fire line, process) of which 8,822 are known not to be Lead Service Line (LSL). The City of Monroe maintains water services from the water main to the meter box. All service lines from the main to the meter box have been inventoried. The City of Monroe does not maintain the service lines past the meter box.

During the LSL inventory study conducted by Garver Engineers and Consultants, they identified 6,313 lead status unknowns. This means there are 6,313 services lines on the customer side of the meter box where the service line material is unknown. The EPA requires that any customers with unknown service lines receive a notification letter by mail from the City.

To prepare for this, Water Resources is working with Garver to prepare template letters to send to customers, where the customer side of the service line material is unknown. Moving forward, Water Resources crews will methodically work through the list of 6,313 unknown services which will be completed by the fall of 2027. This will ensure that the City of Monroe maintain compliance with the Lead and Copper Rule Revision. This is for informational purposes only.

RECOMMENDATIONS

This is for informational purposes only and no action is necessary.



STAFF REPORT

TO: Public Enterprise Committee

VIA: Mark Watson, City Manager

DATE: November 4, 2024

FROM: Scott Clark, Water Resources Director

PREPARED BY: Scott Clark, Water Resources Director

SUBJECT: Army Corps Water Infrastructure Financing Program Update

SUMMARY STATEMENT

Water Resources will provide an update and is seeking input from the Public Enterprise Committee regarding a US Army Corps of Engineers (USACE), Water Infrastructure Financing Program opportunity for future Capital Improvement Projects on our Dams.

REVIEW

In November 2023, Water Resources presented information to the Public Enterprise Committee regarding a low-interest funding/financing opportunity for infrastructure projects. At that time, the Public Enterprise Committee directed staff to proceed with the preliminary application process. To assist with the process, Hazen & Sawyer Engineering Consultants was utilized to conduct comprehensive dam inspections and assist with the funding application process.

Hazen & Sawyer recently completed the comprehensive inspections on our three (3) dams (Lake Twitty Dam, Lake Lee Dam, and Lake Monroe Dam). The Engineers identified repairs are needed on the infrastructure and Preliminary Engineering Reports (PER) should be conducted. Water Resources will request funding in the Fiscal Year 2026 budget process to conduct the Preliminary Engineering Reports.

The US Army Corps of Engineers has formally notified us that we were selected to submit a full application for the City of Monroe Dam Improvements Project. We have one (1) year from the date of notification (September 9, 2024) to submit our full application through the Corps Water

Infrastructure Financing Program portal. For planning purposes, they have requested we notify them if we will accept or decline this invitation by November 8, 2024.

RECOMMENDATION

Staff request the Public Enterprise Committee:

Determine if Water Resources staff should proceed with submitting a full application for the low-interest funding/financing opportunity.



September 9, 2024

SUBJECT: CWIFP Selection Notification

Everette Knight
City of Monroe, NC
P.O. Box 69
Monroe, NC 28111-0069

Dear Everette,

Thank you for your interest in the U.S. Army Corps of Engineers (USACE), Corps Water Infrastructure Financing Program (CWIFP). We have reviewed your preliminary application for the Fiscal Year 2023 Selection Round and are pleased to inform you that you have been selected to submit a full application for the City of Monroe Dam Improvements Project for a loan up to \$17,600,000. Please keep in mind that CWIFP financing plus any other form of Federal assistance may not exceed 80% of total project costs.

The purpose of USACE's preliminary application review is to pre-screen prospective borrowers to the extent possible based on information available at that time. An invitation to apply for CWIFP credit assistance does not guarantee that the project will proceed to financial close. USACE's approval is subject to an ongoing assessment of a project's eligibility – per the final rule (see 33 CFR Part 386) and Notice of Funding Availability (88 Fed. Reg. 64,892). This includes a thorough review of the borrower's creditworthiness; federal asset determinations; whether the project is technically sound, economically justified, and environmentally acceptable; the negotiation of terms and conditions acceptable to USACE; the availability of funds; and the prioritization of dam safety work to meet the dam safety policy objectives of the program.

You will have one year from the date of this notification letter to submit your full application through the CWIFP [application portal](#). For planning purposes please e-mail the CWIFP team (CWIFP@usace.army.mil) with your intention to accept or decline this invitation by November 8, 2024, and indicate the timing to submit your full application. Please note that your non-refundable application fee has been waived. If you submit an application, you are responsible for all costs incurred by USACE for processing the application and negotiating credit assistance, regardless of whether the credit agreement is executed (see 33 CFR Part 386.15(b)).

We will be reaching out to discuss next steps soon, but if you have questions in the interim, please contact us by e-mail (CWIFP@usace.army.mil) or by phone (651-219-2963).

We look forward to working with you on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "A. Snyder", written over a faint circular background.

AARON M. SNYDER
Director



STAFF REPORT

TO: Public Enterprise Committee

VIA: Mark Watson, City Manager

DATE: November 4, 2024

FROM: Scott Clark, Water Resources Director

PREPARED BY: Scott Clark, Water Resources Director

SUBJECT: Town of Mooresville Potential Interbasin Transfer Request

SUMMARY STATEMENT

Water Resources staff will present information regarding the Town of Mooresville potential Interbasin Transfer Request, their alternative options, and how it may impact the City of Monroe.

REVIEW

In 1993, the North Carolina Legislature enacted General Statute G.S. §143-215.22I as part of An Act to Regulate Interbasin Transfers. The law regulated surface water transfers between river basins by requiring a certificate from the Environmental Management Commission (EMC). In general, a transfer certificate is required for a new transfer of 2 million gallons per day (MGD) or more.

The Town of Mooresville is evaluating options to increase their wastewater treatment capacity for their rapidly expanding community. They obtain their water supply from Lake Norman in the Catawba – Wateree river basin and discharge their treated wastewater into an unnamed tributary to Dye Creek, in the Yadkin – PeeDee river basin. They have a permit to transfer up 9.54 million gallons per day (MGD) of water from the one basin to the other. The three (3) proposed options are as follows:

1. **Continue Existing Discharge:** Expand capacity at the current wastewater treatment plant and continue discharging solely to Dye Branch. This would require an IBT Certificate with a total transfer of 12.6 MGD on an average day over the maximum calendar month basis.
2. **Catawba Basin Discharge:** Expand capacity at the current wastewater treatment plant and build a pipeline to discharge a portion of the treated wastewater into Lake Norman in the Catawba River Basin, allowing the Town to stay under the legacy IBT allowance.

3. **Neighboring Utility:** Divert a portion of untreated wastewater to Charlotte Water's system for treatment at the McDowell Wastewater Treatment Plant, which discharges to a tributary flowing into Mountain Island Lake (Catawba River Basin), allowing the Town to stay under the legacy IBT allowance.

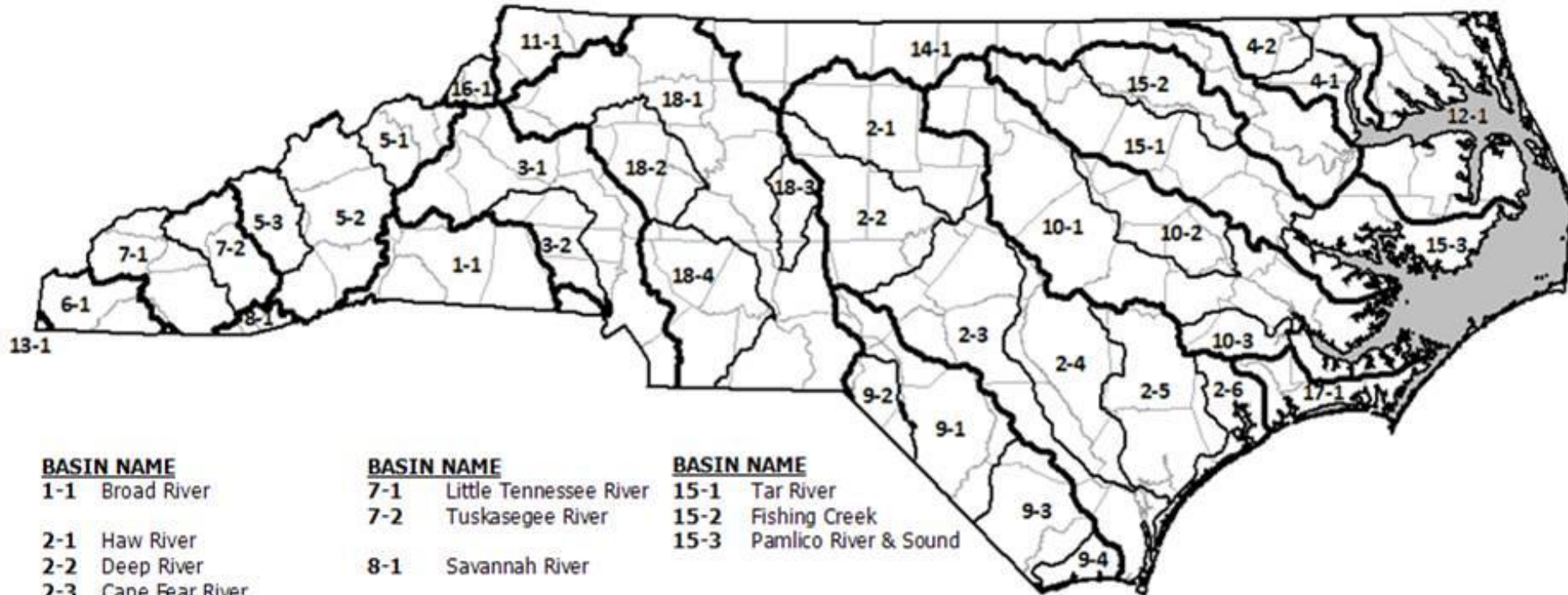
As a stakeholder in the Catawba – Wateree and Yadkin – PeeDee River basins, we are invited to attend their public meetings and provide comments on their options.

Any increased wastewater discharge to the Yadkin – PeeDee River basin by another utility, may impede our ability to discharge additional effluent from our wastewater treatment plant in the future. These increased flows may require the City of Monroe to conduct extensive research to determine if the basins can handle the volume, once we are required to expand our treatment above 15.4 MGD.

RECOMMENDATION

The Public Enterprise Committee is requested to take a position on this potential Interbasin Transfer Request and forward to City Council to be placed on the agenda for the November 18th Strategic meeting.

Designated Interbasin Transfer River Basins As defined in G.S. §143-215.22G



BASIN NAME

1-1 Broad River

2-1 Haw River

2-2 Deep River

2-3 Cape Fear River

2-4 South River

2-5 Northeast Cape Fear River

2-6 New River

3-1 Catawba River

3-2 South Fork Catawba River

4-1 Chowan River

4-2 Meherrin River

5-1 Nolichucky River

5-2 French Broad River

5-3 Pigeon River

6-1 Hiwassee River

BASIN NAME

7-1 Little Tennessee River

7-2 Tuskasegee River

8-1 Savannah River

9-1 Lumber River

9-2 Big Shoe Heel Creek

9-3 Waccamaw River

9-4 Shallotte River

10-1 Neuse River

10-2 Contentnea Creek

10-3 Trent River

11-1 New River

12-1 Albemarle Sound

13-1 Ocoee River

14-1 Roanoke River

BASIN NAME

15-1 Tar River

15-2 Fishing Creek

15-3 Pamlico River & Sound

16-1 Watauga River

17-1 White Oak River

18-1 Yadkin River

18-2 South Yadkin River

18-3 Uwharrie River

18-4 Rocky River



Notice of Public Meetings to Discuss Increasing Wastewater Treatment Capacity and Potential Interbasin Transfer for the Town of Mooresville, NC

The Town of Mooresville, NC (Town) is evaluating several options to expand wastewater treatment capacity for its rapidly growing service population. One of these alternatives would require an increase to the Town's approved legacy interbasin transfer (IBT). In consultation with the NC Department of Environmental Quality (NC DEQ), it was determined the most appropriate way to proceed with an evaluation of alternatives is through the framework of an IBT evaluation, in accordance with General Statute 143-215.22(L) – Regulation of Surface Water Transfers.

The Town is in Iredell County immediately north of Mecklenburg County and Charlotte, along I-77. It has a current population approaching 55,000 people. The Town has a water supply intake in Lake Norman and has historically received its water supply from the Catawba River. Our withdrawal from the Catawba River predates Lake Norman which was impounded by Duke Energy in the early 1960s. The ridgeline between the Catawba and Yadkin-Pee Dee River basins is located through the middle of the Town, with railroad tracks being the approximate basin divide. Wastewater is treated at the Rocky River Wastewater Treatment Plant (RRWWTP) and discharged to Dye Branch, which is a tributary to the Rocky River in the Yadkin-Pee Dee River Basin.

The IBT General Statute was first passed in 1993 and it was determined that at that time the Town had the capacity to transfer 9.54 million gallons per day (MGD) with its water and wastewater facilities. This is referred to as the Town's legacy IBT and is 9.54 MGD on a maximum day basis, equivalent to 8.0 MGD on an average day over the maximum calendar month basis. The Town currently has a permitted wastewater discharge capacity of 7.5 MGD. The Town needs to begin expansion of its wastewater treatment capacity in the next five years to meet the needs of the growing population.

Several options to increase wastewater treatment capacity were identified in a comprehensive water and wastewater master plan, and include:

1. **Continue Existing Discharge:** Expand capacity at the current wastewater treatment plant and continue discharging solely to Dye Branch. This would require an IBT Certificate with a total transfer of 12.6 MGD on an average day over the maximum calendar month basis.
2. **Catawba Basin Discharge:** Expand capacity at the current wastewater treatment plant and build a pipeline to discharge a portion of the treated wastewater into Lake Norman in the Catawba River Basin, allowing the Town to stay under the legacy IBT allowance.
3. **Neighboring Utility:** Divert a portion of untreated wastewater to Charlotte Water's system for treatment at the McDowell Wastewater Treatment Plant, which discharges to a tributary flowing into Mountain Island Lake (Catawba River Basin), allowing the Town to stay under the legacy IBT allowance.

The Town of Mooresville will hold five in-person public meetings to discuss these and other alternatives for increasing wastewater treatment capacity. The purpose of these meetings is for citizens to learn more and comment on alternatives for increasing wastewater treatment capacity. **These meetings will be conducted in a drop-in, open house format.** This is not a sit-down public meeting with a formal presentation. Attendees are welcome to arrive anytime during the scheduled

meetings (please note: at least 30 minutes is likely necessary to review information and make comments). Handouts will be provided and attendees will be able to submit written comments during the open house or online afterwards.

The in-person open house meetings are as follows:

- **Mooreville, NC**
 - Thursday, November 7, 2024
 - 4:00 – 7:00 p.m.
 - Charles Mack Citizen Center (215 N. Main St., Mooreville, NC)
- **Hickory, NC ***
 - Tuesday, November 12, 2024
 - 4:00 – 7:00 p.m.
 - Hickory Metro Convention Center (1960 13th Ave Dr SE #5186, Hickory, NC)
- **Monroe, NC**
 - Thursday, November 14, 2024
 - 4:00 – 7:00 p.m.
 - Walter Bickett Elementary School (830 ML King Blvd. S., Monroe, NC)
- **Lancaster, SC**
 - Tuesday, November 19, 2024
 - 4:00 – 7:00 p.m.
 - Catawba Falls Events (4223 Cedar Creek Rd., Lancaster, SC)
- **Mooreville, NC**
 - Thursday, November 21, 2024
 - 4:30 – 7:00 p.m. (please note later start time)
 - East Mooreville Intermediate School (1711 Landis Hwy, Mooreville, NC)

** The Town is currently working to secure an additional meeting in the Hickory/Morganton area at a later date to ensure our neighboring communities so affected by Helene have the opportunity to provide input.*

For those who are unable to attend one of the in-person meetings, the Town will make the information available to review virtually on the Town's website by November 7, 2024.

Public comments can be emailed to ww_comments@moorevillenc.gov and will be accepted until December 21, 2024. Written comments may also be mailed before December 21, 2024 to:

Town of Mooreville Operations Center
Attn: Wastewater Comments
2523 Charlotte Highway
Mooreville, NC 28117

Further information on the wastewater treatment capacity alternatives being considered and on the IBT process can be found on the Town of Mooreville website at https://moorevillenc.gov/wastewater_capacity and on the [NC DEQ site](#).

Contact ww_comments@moorevillenc.gov with any questions.



STAFF REPORT

TO: Public Enterprise Committee

VIA: Mark Watson, City Manager

DATE: November 4, 2024

FROM: Scott Clark, Water Resources Director

PREPARED BY: Scott Clark, Water Resources Director

SUBJECT: Rate Study and System Development Fee Update

SUMMARY STATEMENT

Water Resources staff will provide a status update on the Rate Study, System Development Fees, and the required actions to move forward with recommendations.

REVIEW

The City of Monroe hired Raftelis, an industry leader, to evaluate and develop cost-justified water and sewer system development fees. North Carolina General Statute §162A-205 states the method and criteria used to calculate the maximum potential fees.

North Carolina law requires re-adoption of these fees at least every five (5) years. System development fees are assessed to new developments connecting to a water and/or sewer utility system for the first time. Developers and not existing residential customers pay such fees. These fees are designed to assist with recovering the cost of water and sewer capacity and infrastructure required to serve new customers.

Raftelis has completed a draft report that is ready for public input. North Carolina law requires the Water and Sewer System Development Fee report to be posted on the City of Monroe's website for a 45-day public comment period. The draft report was published on our website on October 23, 2024. All comments will be forwarded to Raftelis for review. Raftelis must consider any comments made during this period and prepare possible modifications or revisions into the final report. Prior to adopting the system development fees, a Public Hearing must be scheduled. Once the Public Hearing is held, the City Council can proceed with adoption of the fees.

RECOMMENDATION

Staff is requesting the Public Enterprise Committee forward to City Council to be placed on the agenda for the Strategic Meeting on November 18, 2024, a presentation by Raftelis of the draft report, rate study information, and schedule a Public Hearing to be held at the December 10th Regular Council Meeting.

October 21, 2024

Mr. Scott E. Clark
Director of Water Resources
City of Monroe Water Resources Department
2401 Walkup Avenue
Monroe, NC 282110

Subject: Water and Sewer System Development Fees for FY 2025

Dear Mr. Clark:

Raftelis Financial Consultants, Inc. (“Raftelis”) has completed an evaluation to develop cost-justified water and sewer system development fees for fiscal year (“FY”) 2025 for consideration by the City of Monroe (“City”). This report documents the results of the analysis, which was based on an approach for establishing system development fees set forth in North Carolina General Statute 162A Article 8 – “System Development Fees.” The purpose of this report is to summarize Raftelis’ conclusion related to cost justified water and sewer system development fees.

The preparation of this report was developed by Raftelis for the City based on a specific scope of work agreed to by both parties. The scope of Raftelis’ work consisted of completing a calculation of cost justified water and sewer system development fees using common industry practices and industry standards. We provide no opinion on the legality of the system development fees implemented by the City. It is the responsibility of the City to ensure compliance of the system development fees with North Carolina General Statute 162A Article 8 – “System Development Fees.”. The scope of work did not include any additional work other than the calculation associated with the system development fees, such as opinions or recommendations on the administration of these fees, the timing and use application of revenues from the collection of these fees, etc., as that is the responsibility of the City.

In developing the conclusions contained within this report, Raftelis has relied on certain assumptions and information provided by the City, who is most knowledgeable of the water and sewer system, its finances, etc. Raftelis has not independently verified the accuracy of the information provided by the City. We believe such sources are reliable and the information obtained to be reasonable and appropriate for the analysis undertaken and the conclusions reached. The conclusions contained in this report are as of the stated date, for a specific use and purpose, and made under specific assumptions and limiting conditions. The reader is cautioned and reminded that the conclusions presented in this report apply only as to the effective date indicated. Raftelis makes no warranty, expressed or implied, with respect to the opinions and conclusions contained in this report. Any statement in this report involving estimates or matters of opinion, whether or not specifically designated, are intended as such, and not as representation of fact.

Background

System development fees are one-time charges assessed to new water and/or sewer customers for their use of system capacity and serve as an equitable method by which to recover up-front system capacity costs from

227 W. Trade Street, Suite 1400
Charlotte, NC 28202

www.raftelis.com

those using the capacity. North Carolina General Statute 162A Article 8 (“Article 8”) provides for the uniform authority to implement system development fees for public water and sewer systems in North Carolina and was passed by the North Carolina General Assembly and signed into law on July 20, 2017, and has been modified since adoption. According to the statute, system development fees are required to be adopted in accordance with the conditions and limitations of Article 8, and the fees are required to conform to the requirements set forth in the Article. In addition, the system development fees must also be prepared by a financial professional or licensed professional engineer, qualified by experience and training or education, who, according to the Article, shall:

- Document in reasonable detail the facts and data used in the analysis and their sufficiency and reliability.
- Employ generally accepted accounting, engineering, and planning methodologies, including the buy-in, incremental cost or marginal cost, and combined cost methods for each service, setting forth appropriate analysis to the consideration and selection of an approach appropriate to the circumstances and adapted as necessary to satisfy all requirements of the Article.
- Document and demonstrate the reliable application of the methodologies to the facts and data, including all reasoning, analysis, and interim calculations underlying each identifiable component of the system development fee and the aggregate thereof.
- Identify all assumptions and limiting conditions affecting the analysis and demonstrate that they do not materially undermine the reliability of conclusions reached.
- Calculate a final system development fee per service unit of new development and include an equivalency or conversion table for use in determining the fees applicable for various categories of demand.
- Consider a planning horizon of not less than five years, nor more than 20 years.
- Use the gallons per day per service unit that the local government unit applies to its water or sewer system engineering for planning purposes for water or sewer, as appropriate, in calculating the system development fee.

This letter report documents the results of the calculation of water and sewer system development fees for FY 2025 in accordance with these requirements. In general, system development fees are calculated based on (1) a cost analysis of the existing or planned infrastructure that is in place, or will be constructed, to serve new capacity demands, and (2) the existing or additional capacity associated with these assets. Article 8 is relatively explicit in the identification of infrastructure assets that may be included as part of the system development fee calculation, as the Article defines allowable assets to include the following types, as provided in Section 201: *“A water supply, treatment, storage, or distribution facility, or a wastewater collection, treatment, or disposal facility providing a general benefit to the area that facility serves and is owned or operated, or to be owned or operated, by a local governmental unit. This shall include facilities for the reuse or reclamation of water and any land associated with the facility.”*

Therefore, the method used to calculate system development fees for the City included system facility assets that satisfied this definition.

Article 8 references three methodologies that can be used to calculate system development fees. These include the buy-in method, the incremental cost method, and the combined cost method. A description of each of these methods is included in the following paragraphs:

Capacity Buy-In Method:

Under the Capacity Buy-In Method, a system development fee is calculated based on the proportional cost of each user's share of existing system capacity. This approach is typically used when existing facilities can provide adequate capacity to accommodate future growth. The cost of capacity is derived by dividing the estimated value of existing facilities by the current capacity provided by existing facilities.

Adjustments to the value of existing facilities are made for developer contributed assets, grant funds, and outstanding debt.

Incremental Cost Method:

Under the Incremental Cost (or Marginal Cost) Method, a system development fee is calculated based on a new customer's proportional share of the incremental future cost of system capacity. This approach is typically used when existing facilities have limited or no capacity to accommodate future growth. The cost of capacity is calculated by dividing the total cost of growth-related capital investments by the additional capacity provided as a result of the investments.

Combined Method:

Under the Combined Method, a system development fee is calculated based on the blended value of both the existing and expanded system capacity. As such, it is a combination of the Capacity Buy-In and Incremental Cost methods. This method is typically used when existing facilities provide adequate capacity to accommodate a portion of the capacity needs of new customers, but where significant investment in new facilities to address a portion of the capacity needs of future growth is also anticipated, or where some capacity is available in parts of the existing system, but incremental capacity will be needed for other parts of the system to serve new customers at some point in the future.

Based on a review of the data and discussions with City staff, the water treatment plant facilities have capacity to accommodate future growth, but there are also near-term capital improvement projects needed to deliver capacity to serve new customers. As such, it was determined the most appropriate methodology to use for the water system development fee is the *Combined* approach. On the sewer side, the City is reaching capacity constraints and anticipates a large wastewater treatment plant expansion to accommodate new growth. Therefore, it was determined that the *Marginal Incremental* approach was most appropriate for the sewer system development fee methodology. The steps used to calculate the system development fees are provided below.

Fee Calculation – Existing System Value (Buy-In)

Step 1 – Estimate the Replacement Value of System Facilities and Apply Adjustments

A listing of fixed assets provided by the City, as of June 30, 2023, was reviewed and each individual asset was categorized into one of the categories shown in Table 1.

Table 1. Fixed Asset Categories

System Assets
Administration
Construction
Maintenance
Water Treatment Plant

Assets related to vehicles and other “non-core assets” were excluded from the calculation of system value as these assets were not specifically identified as allowable under Article 8. Excluded assets included those relating to administrative and miscellaneous type buildings, leases, and various types of equipment.

Next, the replacement value of existing assets in allowable categories was estimated. Each asset’s net book value was escalated to 2023 dollars based on the year the asset was purchased and the corresponding escalation factor for that year, resulting in the replacement cost new less depreciation (“RCNLD”) value of the system. Escalation factors for each year were developed using the Handy-Whitman index, which is an industry accepted method by which to value system facilities. The estimated RCNLD values for the water system assets allowable under Article 8 are summarized in Tables 2.

Table 2. Water System Value (RCNLD)

Water System Descriptions	RCNLD Value
Administration	\$5,139,084
Construction	14,538,249
Maintenance	9,143,841
Water Treatment Plant	84,016,743
Total	\$112,837,917

As shown in Table 2, the RCNLD value of the water system was estimated to be approximately \$112.8 million. Several additional adjustments were made to the estimated water and sewer system RCNLD values in accordance with Article 8, as described below.

Developer Contributed Assets:

The listing of fixed assets was reviewed to identify assets that were contributed, or paid for, by developers. The City tracks assets that were contributed by developers and identifies them in the fixed asset information. These assets were subtracted from the RCNLD value, as these assets do not represent an investment in system capacity by the City. The total RCNLD value of contributed water system assets was estimated to be approximately \$18.2 million.

Debt Credit:

In calculating the system development fees for the City, a debt credit was included in the calculation. The debt credit reflects the outstanding debt principal associated with the water system facilities. This adjustment is applied to prevent recovering the cost of the assets twice, once when assessing system development fees to new customers, and then again when these customers pay user charges.

The resulting adjustments to the water RCNLD values are summarized in Table 3.

Table 3. Calculation of Existing Water System Value

Description	Amount
Water System:	
System Facilities RCNLD	\$112,837,917
Less: Non-Core Assets	(2,637,345)
Less: Developer Contributed Assets	(18,249,562)
Less: Outstanding Debt Principal	(9,971,676)
Net Water System Value	\$81,979,335

Step 2 – Calculate the Unit Cost of System Capacity

The cost per unit of system capacity was calculated by dividing the adjusted RCNLD value (derived in Step 1) by the water system capacity. The City of Monroe currently has a total water treatment capacity of 12.99 MGD. The City owns and operates its own treatment facility with a maximum treatment capacity of 11.00 MGD, and also buys 1.99 MGD in capacity from Union County. Therefore, the cost per unit of system capacity for the existing water system was calculated to be \$6.31 per gallon, per day (\$82 million ÷ 12.99 MGD), summarized in Table 4.

Table 4. Cost per Unit of Existing System Capacity (GPD)

Existing Water System	Amount
Net Water System Value	\$81,979,335
Water System Capacity (MGD)	12.99
Unit Cost of Capacity (\$ / gallon per day)	\$6.31

Fee Calculation – Future Capital Projects (Marginal-Incremental)*Step 1 – Identify Value of System Facilities that will Serve New Growth and Apply Adjustments*

The City's 10-year capital improvement plan identifies growth related projects that will assist the City in serving new water and sewer customers. For water, the City has identified several projects that are used to expand current capacity to new customers. The capital project program costs associated with this future growth as identified in the City's 10-year CIP are estimated to be \$13.2 million. On the sewer side, the City expects to construct a new wastewater treatment plant expansion in the next 5 years. The anticipated cost of this project is approximately \$100.0 million.

As the City does not anticipate any Grant Funding for these future projects, the only adjustment made to the projects is a "Debt Credit" as discussed below.

Section 207 of Article 8 states *"In applying the incremental cost or marginal cost, or the combined cost, method to calculate a system development fee with respect to capital improvements, the system development fee analysis must include as part of that methodology a credit against the projected aggregate cost of capital improvements. That credit shall be determined based upon generally accepted calculations and shall reflect a deduction of either the outstanding debt principal or the present value of projected water and sewer revenues received by the local governmental unit for the capital improvements necessitated by and attributable to such new development, anticipated over the course of the planning horizon. In no case shall the credit be less than twenty-five percent (25%) of the aggregate cost of capital improvements"*.

It is the City's intent to pay for the water capital projects that facilitate growth with cash reserves. Therefore, to satisfy this requirement under the Marginal Incremental Approach, a minimum debt credit of 25% as defined in the Statute was deducted.

On the sewer side, the City assumes that the wastewater treatment plant expansion project will be fully funded through debt¹. Therefore, the net present value of future principal debt payments on the treatment plant was deducted in the sewer calculation. The debt credit for water and sewer capital projects can be seen in Table 5 and Table 6 below.

Step 2 – Calculate the Unit Cost of System Capacity

Water capital projects identified in the 10-year CIP will provide access to treated water for new customers but will not add any additional treatment plant capacity. Because the Marginal Incremental Approach is based on total treatment capacity of the City's system, the total capacity used for the Marginal Incremental Approach remains at 12.99 MGD for the water system. The cost per unit of system capacity for the water system was calculated by dividing the net water system value by the water system capacity. Therefore, the cost per unit of system capacity for the water system under the Marginal Incremental Approach was calculated to be \$0.76 per gallon, per day (\$9.9 million ÷ 12.99 MGD).

Table 5. Cost per Unit of Future Water System Capacity (GPD)

10-Year Capital Plan	Water Projects
Growth Related Capital Projects	\$13,220,000
Less: Debt Credit	<u>(3,305,000)</u>
Costs of Expansion to be Recovered	\$9,915,000
Total Treatment Capacity (MGD)	12.99
Unit Cost of Capacity (\$ / gallon per day)	\$0.76

Since the Combined Approach was chosen for calculating the water system development fees, the cost per unit of future capacity, shown in Table 5, was added to the cost per unit of existing capacity, shown in Table 4. The Combined cost per unit of capacity therefore is calculated to be \$7.07 per gallon (\$6.31 gpd + \$0.76 gpd).

The wastewater treatment plant project will provide an additional 3.0 MGD of treatment capacity to the sewer system and represents the incremental amount of capacity for the Marginal Incremental Approach. The cost per unit of system capacity for the sewer system was calculated by dividing the net sewer system value by the sewer system capacity. Therefore, the cost per unit of system capacity for the sewer system under the Marginal Incremental Approach was calculated to be \$21.12 per gallon, per day (\$63.3 million ÷ 3.00 MGD). The unit costs of future system capacity is summarized in Table 6 below.

¹ The City may elect to use reserve funds to partially fund the Wastewater Treatment Plant Expansion, however to be conservative, we have elected to fully fund the project with new debt.

Table 6. Cost per Unit of Future Sewer System Capacity (GPD)

10-Year Capital Plan	Sewer Projects
Growth Related Capital Projects	\$100,000,000
Less: Debt Credit	(36,650,860)
Costs of Expansion to be Recovered	\$63,349,140
Total Treatment Capacity (MGD)	3.00
Unit Cost of Capacity (\$ / gallon per day)	\$21.12

Step 3 – Estimate the Amount of Capacity Per Service Unit of New Development

Section 205 of Article 8 states that the system development fee calculation “...use the gallons per day per service unit that the local governmental unit applies to its water or sewer system engineering for planning purposes for water or sewer, as appropriate, in calculating the system development fee.” For the water system, one ERU of peak day capacity for the water system was defined to be 360 gallons per day (“GPD”). This is the level of service that the City uses for its water system planning purposes. For the sewer system, the City uses a reduced sewer demand of 240 GPD.

Step 4 – Calculate the System Development Fee for One ERU

The system development fee for one ERU was calculated by multiplying the unit cost of capacity from Step 2 by the capacity demanded by one ERU from Step 3. The calculations are provided in Table 7.

Table 7. Calculation of Water and Sewer System Development Fees for One ERU

System Development Fee Calculation	Water	Sewer
Weighted Average	<i>Combined Approach</i>	<i>Incremental Approach</i>
System Buy-In	\$6.31	n/a
Marginal Incremental	\$0.76	\$21.12
Combined Costs (GPD)	\$7.07	\$21.12
Gallons per Day per ERU (GPD)	360	240
System Development Fee per ERU	\$2,547	\$5,068

Step 5 – Scale the System Development Fees for Various Categories of Demand

The system development fees for various categories of demand were scaled 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, as shown in Table 8.²

² Manual of Water Supply Practices (M1), Principles of Water Rates, Fees, and Charges, American Water Works Association, 7th Edition, Table VII.2-5 on p. 338.

Table 8. Meter Capacities and Scaling Factors by Meter Size

Meter Size	Rated Meter Capacity (gpm*)	Scaling Factor
3/4"	30	1.0
1"	50	1.67
1-1/2"	100	3.33
2"	160	5.33
3"	320	10.67
4"	500	16.67
6"	1,000	33.33
8"	1,600	53.33

gpm = Gallons per minute

Maximum Cost Justified System Development Fees by Meter Size

The calculated water system development fee under the Combined Approach is \$2,547 and the calculated sewer system development fee under the Marginal Incremental Approach is \$5,068. As mentioned previously, the system development fees for various categories of demand are scaled by applying the water meter capacity ratios shown in Table 8. The resulting water and sewer system development fees shown in Table 9 represent the maximum cost justified level of system development fees that can be assessed by the City of Monroe per Article 8. If the City 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 8.

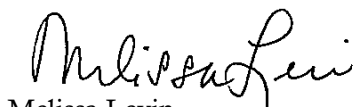
Table 9. Water and Sewer System Development Fees by Meter Size

Meter Size	Water Fee	Sewer Fee
3/4"	\$2,547	\$5,068
1"	\$4,253	\$8,464
1-1/2"	\$8,482	\$16,876
2"	\$13,576	\$27,012
3"	\$27,176	\$54,076
4"	\$42,458	\$84,484
6"	\$84,892	\$168,916
8"	\$135,832	\$270,276

We appreciate the opportunity to assist the City of Monroe with the calculation of its water and sewer 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.



Melissa Levin,
Executive Vice President