

# CHARLOTTE WATER

## Revenue Manual

July 2021 Revision



Operated by the City of Charlotte

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## Purpose

This Charlotte Water (CLTWater) Revenue Manual consolidates CLTWater's water and sewer rate methodology documents into a single document referred to as the "Revenue Manual" in the City of Charlotte Code of Ordinances (City Code).

The reader should consult the Schedule of Current Rates, Fees and Charges applicable to a specific time for the amounts of such rates, fees, and charges that are in effect at that time.

## Background

The City of Charlotte and Mecklenburg County formed Charlotte Mecklenburg Utility Department in 1972 to provide City and County residents with drinking water, fire protection and wastewater collection and treatment services. Interlocal agreements with the other six Mecklenburg County municipalities in the 1980's brought their residents into Charlotte Mecklenburg Utility Department as direct, retail customers and provided for them to pay the same rates and fees as other customers and to receive services as prescribed in the agreements. In 2015, The Charlotte Mecklenburg Utility Department changed its name to Charlotte Water (CLTWater). CLTWater provides water and wastewater treatment services to more than 250,000 accounts.

The source of the water supplied by CLTWater to its customers is the Catawba River, which begins in the North Carolina Mountains and flows through 11 impoundments operated by Duke Energy Company. Two of the impoundments, Lake Norman and Mountain Island Lake, are the source of the CLTWater water supply.

The water system consists of the three water treatment plants: the Walter M. Franklin Water Treatment Plant, the largest in North Carolina with a treatment capacity of 181 million gallons per day (MGD); the Vest Water Treatment Plant with a treatment capacity of 36 MGD; and the Lee S. Dukes, Jr. Water Treatment Plant has a capacity of 25 MGD.

Water, once treated, pumps into more than 4,000 miles of water mains. Booster pumping stations transfer water to the high-pressure zones in the distribution system. The water system also includes 87 million gallons of clear well storage, 10 elevated storage tanks with a combined capacity of 12.25 million gallons, and 2 ground level storage facilities with a combined capacity of 10 million gallons.

Five treatment plants, McAlpine Creek, McDowell, Sugar Creek, Mallard Creek and Irwin Creek, provide wastewater treatment. The wastewater system includes more than 4,000 miles of collection systems lines and has a total permitted treatment capacity of 123 MGD.

## History

Prior to 1992, both the water and sewer rate structures consisted of a fixed charge and a volumetric charge and wastewater surcharges on industrial customers for high strength wastewater (i.e., higher than domestic strength BOD and TSS).

CLTWater eliminated Tapping Privilege Fees for new service connections after June 30, 1992 and a new fee structure was implemented on July 1, 1992 that included a connection and capacity fee for both water and sewer. Capacity fees are one-time charges to new customers to assist in recovering at least a part of the capital cost of the additional system capacity. Connection fees recover the labor and materials cost of installing the service connection.

In 1994, CLTWater implemented a tiered water structure designed to encourage conservation by water users and recover the additional costs associated with meeting high demand. CLTWater segregated water volumetric rates into three tiers based on volume of water used over the course of the monthly billing period. The first and lowest tier (0–18 Ccf per month) covered essential water uses related to health and sanitation (e.g. consumption, bathing, washing clothes, cooking, etc.) The second tier (19–40 Ccf per month) was a higher rate and applied to higher water usage normally associated with substantial, outdoor water uses (e.g. irrigation). The third tier (greater than 40 Ccf per month) applied the highest rate to the highest levels of water use. In addition, CLTWater established the maximum monthly sewer usage charge, or sewer cap, for residential customers at 18 Ccf. A sewer cap represents the point where, generally speaking, some water use (i.e. outdoor use) does not flow into the sewer system and incur the cost of collection & treatment.

In 2001, CLTWater stepped up conservation efforts by revising the usage thresholds of the water rate tiers based on updated consumption data. The revision modified the water rate structure to allocate the cost of services to those customers creating excessive demand through seasonal, discretionary use of water. The first tier changed to 0-16 Ccf per month, the second tier changed to 17–32 Ccf per month, and the third tier changed to greater than 32 Ccf per month.

Also, in 2001, CLTWater implemented an industrial high-strength, wastewater surcharge to cover the cost of removing ammonia, and a new means of charging commercial customers for high strength wastewater (\$.30 per Ccf for Industrial Waste and \$.40 per Ccf for Commercial High Strength Volume charge) based on the average strength loadings of

commercial customers. CLTWater phased in the updated methodology over a period of two years.

In 2002, CLTWater amended the sewer cap that applied to multi-family customers from 18 Ccf of metered water consumption per dwelling unit to 11 Ccf per dwelling unit. The revision to the sewer cap recognized that average per capita usage for multi-family customers is lower than typical residential usage.

In 2008, CLTWater revised the tier rate structure to encourage conservation. Changes made included the following:

- Increased the number of water rate tiers within the residential and multi-family rate structure from three to four. The first tier (lifeline) changed to 0–4 Ccf per month to provide low cost water for essential usage, the second changed to 5-8 Ccf per month, the third tier changed to 9-16 Ccf, and the fourth tier changed to greater than 16 Ccf per month;
- Changed the water rates charged to bulk customers for use outside of Mecklenburg County from Tier 2 residential rates to the Tier 3 residential rates;
- Revised the number of water rate tiers applicable to irrigation meters and swimming pool accounts from three tiers to two tiers (rates starting at the Tier 3 rate and progressing to Tier 4);
- Increased the sewer cap for residential customers from 18 Ccf to 24 Ccf per month; and
- Changed the assumed water usage amount as the basis for billing sewer only-customers from 11 Ccf to 8 Ccf per month.

Several changes occurred in 2012; primarily the addition of a fixed monthly Availability Fee to recover approximately 20% of annual debt service cost. This fee varies and increases with meter size, in accordance with the most recent, published meter capacity ratios of the American Water Works Association (AWWA). The residential cap for sewer was reduced from 24 Ccf to 16 Ccf per month; the multi-family sewer cap remained at 11 Ccf per month. In addition, the amended methodology of the High Strength Surcharges for the Monitored Industries eliminated the surcharge for carbonaceous biochemical oxygen demand (CBOD) and added a charge for chemical oxygen demand (COD). The Commercial High Strength Charge increased from \$.40 per Ccf to \$.50 per Ccf for the Non-monitored Industries and the Industrial Waste Charge decreased from \$.30 per Ccf to \$.24 per Ccf. The methods for calculating rates and fees, which had been in numerous and various documents prior, were consolidated into a "Revenue Manual" and City Code references were changed to reflect this document.

In 2015, CLTWater revised the revenue manual to include several changes to programs. First, the rate methodology no longer subsidizes costs in Tier 1. Second, the Availability and

Capacity fees increased to stabilize revenues. Third, CLTWater began a program to install meters on temporary hydrant connections to accurately measure water used rather than use an estimated flat fee for those connections. In addition, with this manual revision, development user fees were included for the first time to reflect the methodology used to collect costs associated with plan review, permitting and inspection. CLTWater also updated several other miscellaneous customer-billing fees to reflect changes in costs and policies.

In 2018, CLTWater revised the Revenue Manual to comply with North Carolina General Statute § 162A Article 8, which provided for the uniform authority to implement System Development Fees for public water and sewer systems in North Carolina. For consistency with § 162A Article 8, all references to Capacity Fees were also modified to read System Development Fees.

In 2021, CLTWater revised the bulk rate from the Tier 3 Residential Rate to the Non-Residential (Commercial) Rate. CLTWater also revised, renamed, and added fees in the following sections of the Revenue Manual:

- Industrial Wastewater Program Charges
- Land Development User Fees
- Miscellaneous Rates and Fees
- Meter Set Fees
- Customer Service and Billing Fees and Charges
- Hydrant Fees and Penalties
- Truck Fees and Penalties
- Private Meter Fees and Penalties
- Septic Waste Fees

CLTWater also added descriptions of previously existing special financing programs to the Revenue Manual.

Previously, the department's Director both established and administered rates, fees, and charges for other services provided by CLTWater. The 2021 revision now authorizes CLTWater's Chief Financial Officer to administer rates, fees, and charges, once the Director has established them.

## **Water and Sewer Fixed Billing Fees**

The fixed billing fee recovers the costs associated with the servicing of customer water and sewer accounts, such as the cost to read and maintain the meters, produce invoices and provide customer service.

The fixed billing fee calculation is as follows: Cost associated with the servicing of customer accounts divided by the number of accounts billed divided by 12 months. Using the equivalent meter approach simplifies the calculation by converting meters larger than a typical 3/4" residential meter to an equivalent number of 3/4" meters that have the same

capacity as the larger meter. The conversion's basis is the AWWA's published meter capacity ratios. The calculation occurs separately for water and sewer services.

Fixed billing fees for sewer meters are subject to additional charges for maintenance and reading of the sewer meter and may be part of a negotiated contract.

CLTWater currently charges the fixed billing fee for water and sewer service. Each billing cycle is prorated for the number of days in the billing cycle.

The fixed billing fee applies to each meter included on the account and is assessed even if no water or sewer usage occurred during the billing period.

## **Water and Sewer Fixed Availability Fees**

CLTWater added availability fees following the February 2011 "Water and Sewer Rate Study Report" by RedOak Consulting to recover approximately 20 percent of CLTWater's annual debt service cost. While the initial target was the recovery of 20% of CLTWater's annual debt service costs, the target now reflects a long-term goal to recover 40% of annual debt service costs through this fee. CLTWater will recommend adjusting the recovery percentage each year as needed and appropriate until achieving the 40% recovery goal.

The availability fee applies to each meter included on the account and is assessed even if no water or sewer usage occurred during the billing period.

To determine base meter size costs, the availability fee methodology is as follows:

### **Water Availability Fee**

Annual Water Debt Service Costs multiplied by the recovery percentage divided by the total number of equivalent meters divided by 12 months. Using the equivalent meter approach simplifies the calculation by converting meters larger than a typical 3/4" residential meter to an equivalent number of 3/4" meters that have the same capacity as the larger meter. The conversion's basis is the AWWA's published meter capacity ratios.

Equivalent meters provide an equitable method for distribution of charging a fixed fee based on the relative capacity of the meter to provide water.

Availability Fees vary and increase with meter size in accordance with published meter capacity ratios.

### **Sewer Availability Fee**

Annual Sewer Debt Service Costs multiplied by the recovery percentage divided by total number of equivalent meters divided by 12 months. Using the equivalent meter approach simplifies the calculation by converting meters larger than a typical 3/4" residential meter to



an equivalent number of 3/4" meters that have the same capacity as the larger meter. The conversion's basis is the AWWA's published meter capacity ratios.

Equivalent meters provide an equitable method for distribution of charging a fixed fee based on the relative capacity of the meter to provide water.

Availability Fees vary and increase with meter size in accordance with published meter capacity ratios.

## Water Usage Charges

CLTWater categorizes water costs into six different cost categories or cost drivers. A distinction exists between costs that are common to both retail and bulk customers, and costs only applicable to CLTWater's retail customers. Below are these categories.

- Base or average day demand
- Maximum day extra capacity
- Maximum hour extra capacity
- Customer
- Public Fire Protection
- Indirect

The categorization of costs into average demand, maximum day demand, and maximum hour demand involved an analysis of overall system demand peaking and associated system-related costs. For example, the design of some water system components (e.g. size of transmission and distribution lines) must meet maximum day and maximum hour demands, whereas the design of other components, such as the water supply source, must meet average daily demands. Since water system components are designed for various purposes, several cost categories were used.

Factors allocate capital and Operating and Maintenance (O&M) costs to base, average daily demand (ADD), maximum day demand (MDD), and maximum hour demand (MHD) cost categories using system demand information. Below is a summary of water system average day, maximum day and maximum hour demands in 2019.

WATER COST DRIVERS						
Year	Average Day Demand (MGD)	Max Day Demand (MGD)	Max Day to Average Day Factor	Average Hour Demand (MGH)	Max Hour Demand (MGH)	Max Hour to Average Hour Factor
2019	110.8	152.7	1.4	4.6	9.7	2.1

MGD = million gallons per day. MGH = million gallons per hour.

Below is a summary of functional cost allocation percentages for system components designed to meet base, maximum day and maximum hour demands.

ALLOCATION PERCENTAGES FOR SYSTEM DEMAND FACTORS				
Allocation	ADD	MDD	MHD	Total
Average Day Demand	100.0%	0.0%	0.0%	100.0%
Maximum Day Demand	72.6%	27.4%	0.0%	100.0%
Maximum Hour Demand	45.8%	17.3%	36.9%	100.0%

The calculation for the maximum day demand allocation is as follows:

- Average Day Demand =  $110.8 / 152.7 \times 100 = 72.6\%$
- Max Day Demand =  $(152.7 - 110.8) / 152.7 \times 100 = 27.4\%$

The calculation for the maximum hour demand allocation is as follows:

- Average Day Demand =  $110.8 / 242.1 \times 100 = 45.8\%$
- Max Day Demand =  $(152.7 - 110.8) / 242.1 \times 100 = 17.3\%$
- Max Hour Demand =  $(242.1 - 152.7) / 242.1 \times 100 = 36.9\%$

Rates are then determined by dividing the cost allocated to each cost category (see tables below) by the total number of units (Ccf) of service projected to be used by each customer class.

Below is a summary of the basis of allocating O&M costs to cost drivers (FY2021):

O&M COST ALLOCATION BASIS		
Functional Costs	Allocation	Rationale
Treatment-Water Treatment	100% Base	Treatment O&M costs based on amount of water treated; therefore, costs allocated to base demand factors.
Treatment-Pumping	44.7% Base 19.6% MDD 33.4% MHD 2.2% Fire	Pumping O&M costs are primarily electricity costs, which are based on commodity and demand charges; therefore, costs were allocated on a max hour basis to base, max day, and max hour demand factors.
Transmission	69.5% Base 29.6% MDD 0.9% Fire	Provides max and average day demands to all customers, so costs allocated on a max day basis to base and max day demand factors.
Distribution	44.7% Base 19.6% MDD 33.4% MHD 2.2% Fire	Provides max hour, max day, and average day demands to all customers, so costs allocated on a max hour basis to base, max day, and max hour factors.
Customer Service		

	100% Number of Bills	Customer service and billing is based on the number customers in the system and number of bills generated.
Indirect	100% Base	Primarily non-departmental and business system costs not related to peak usage.

A summary of the basis of allocating capital costs drivers is provided in the below schedule. Capital cost allocation percentages are based on an analysis of fixed asset costs (FY2021).

<b>WATER CAPITAL COST ALLOCATION BASIS</b>		
<b>Functional Costs</b>	<b>Allocation</b>	<b>Rationale</b>
Source of Supply	100% Base	Source of supply facilities provide water to meet total supply requirements, so costs allocated to base demand.
Treatment - Water Treatment	100% Base	Exclusive of pumping related treatment facilities, water treatment facilities provide capacity to meet average day demand and are therefore fully allocated to base demand.
Treatment – Pumping	44.7% Base 19.6% MDD 33.4% MHD 2.2% Fire	Provides pumping capacity to meet max hour, max day, and average day demands, so costs allocated on a max hour demand basis to base, max day and max hour demand factors.
Transmission	69.5% Base 29.6% MDD 0.9% Fire	Transmission system supports meeting average and max day demands, so costs allocated on a max day basis to base and max day demand factors.
Distribution	44.7% Base 19.6% MDD 33.4% MHD 2.2% Fire	Distribution system supports delivering water to meet average day, max day, and max hour demands, so costs allocated on a max hour basis to base, max day and max hour demand factors.
Storage	22.9% Base 10.0% MDD 17.1% MHD  50.0% Fire	Storage provided to meet max day and max hour demands and to provide the necessary flows and pressures for fire protection, so costs allocated on a max hour basis to base, max day and max hour demand factors, with a 50% allocation to fire protection.
Customer Service	100% Number of Bills	CLT Water billing system and a portion of vehicles support providing customers with service, so costs allocated to number of bills.
Indirect	100% Base	Primarily non-departmental and business system costs not related to peak usage, so costs allocated to base demand.

Units of service costs are then determined by dividing the cost allocated to each cost category by the total number of units of service projected to be used by each customer class.

## Residential Rates

CLTWater assesses volumetric usage rates based on the metered water use per hundred cubic feet (Ccf) and are designed to recoup all costs not recovered through other revenue sources. Residential and multi-family customers pay usage rates on an inclining four-tier schedule that depends on the amount of water used during the monthly billing cycle with established caps.

TIERED STRUCTURE	
Tier	Ccf Used
1	0 - 4
2	5 - 8
3	9 - 16
4	over 16

The tier widths for multi-family, residential customers and for master-metered single-family residential neighborhoods are scaled based on the number of dwelling units served by the master meter. CLTWater normalizes volumetric water (tier) rates for billing periods greater than 33 days by proportionally increasing the width of each tier. There is no normalization usage under 28 days; the usage will fall into the tiers as is.

Below is a summary of the rate methodology used for determining the tier rates.

- The Tier 1 water rate recovers the majority of average daily costs.
- The Tier 2 water rate recovers a portion of average daily costs and maximum day cost.
- The Tier 3 water rate recovers a portion of average daily costs, maximum day costs, and maximum hour costs.
- The Tier 4 water rate recovers a portion of average daily costs, approximately half of the maximum day costs and the majority of the maximum hour costs.

The tier structure applies to the following residential customers: Single Family, Apartment and Master Meter Single Family Attached.

## Non-Residential (Commercial) Water Rates

CLTWater charges non-residential customers (i.e. commercial, industrial, bulk, and governmental) the same rate (uniform usage rate) for each unit of water used during the billing period. There are no tiered rates based on usage and no sewer caps applied.

The uniform usage rate is calculated by dividing the rate revenue requirements allocated to the commercial customer class, determined through the cost of service evaluation process, by the projected total billed commercial water consumption (Ccf) projected for non-residential customers (i.e. commercial, industrial and governmental).

## **Irrigation Meter Charges and Rates**

CLTWater bills water used for irrigation according to the residential or non-residential rate schedules unless the customer obtains a separate meter dedicated only to irrigation service. The department bills water used through a separate irrigation meter according to the irrigation rate schedule and does not bill this water for sewer service.

Currently, there are two options available for a residential customer with an existing service connection to add residential irrigation services.

- Option 1 is a dedicated irrigation service line in which the standard connection fee (established annually) applies.
- Option 2 is a split connection where the irrigation service line attaches to the domestic service line ahead of the domestic meter. The customer is required to pay a one-time adjusted connection fee as opposed to the full fee and pays no System Development Fee for the irrigation service line. The prior year average actual cost is the basis for the reduced connection fee to install services of this type.

Rates for separate residential meter irrigation water usage begin at Tier 3 for water usage up to 16 Ccf per month, and progress to Tier 4 for usage above this amount.

For master metered irrigation accounts used only for residential lawn watering, CLTWater scales rates based on the number of dwelling units. Irrigation meters serving common areas, landscaped street medians, neighborhood parks, or other similar areas are not subject to tier scaling. Rates begin at Tier 3 for water usage up to 16 Ccf per dwelling unit, and progress to Tier 4 for usage above this amount. Irrigation meters are subject to availability and fixed fee charges each month.

If a separate irrigation meter, in addition to a backflow device and smart irrigation controller, is installed and maintained in accordance with CLTWater's standards and requirements, then the Tier 3 rates will apply to all irrigation usage. In addition, CLTWater waives the System Development Fee and customers can pay the connection fee over twelve months. Smart irrigation controllers can significantly reduce water usage.

Water conveyed through irrigation meters is not discharged to the sanitary sewer system and therefore, is not subject to sewer usage charges.

## **Bulk Water Customer Rates**

By policy, public water systems outside of Mecklenburg County (for example, York County and Concord) which purchase water from CLTWater for resale are charged the nonresidential (commercial) rate for all water used unless a separate rate is negotiated and approved by Charlotte City Council.

## Reuse / Reclaimed Water Customer Rates

Water reuse generally refers to the process of using treated wastewater (reclaimed water) for beneficial purposes. By policy customers who purchase reclaimed water from CLTWater are charged 1/2 the nonresidential (commercial) rate for all water used unless a separate rate is negotiated and approved by Charlotte City Council.

## Sewer Usage Charges

The below allocation processes are used to calculate the sewer usage costs. CLTWater categorizes the sewer revenue requirements into four different cost categories identified below.

- Flow Based Costs – Includes costs that vary by the volume of wastewater collected and treated (primary costs are chemical and electricity costs).
- Strength Based Costs – Includes costs associated with the treatment of chemical oxygen demand (COD), total suspended solids (TSS) and Ammonia (NH<sub>3</sub>-N).
- Customer Costs – Include costs that vary in proportion to the number and type of customers served.
- Industry Specific Costs – Includes costs associated with providing wastewater strength monitoring and laboratory analysis for permitted industrial customers.

O&M costs are allocated to functional components of flow, chemical oxygen demand (COD), total suspended solids (TSS), ammonia (NH<sub>3</sub>-N), customer and industry specific categories to recognize the costs incurred to process the wastewater flow and strength characteristics.

Summarized below are the resulting overall O&M cost allocation factors (FY2021).

SEWER COST DRIVERS						
Flow	COD	TSS	NH <sub>3</sub> -N	Customer	Industry Specific	Total
46.7%	28.1%	6.8%	1.0%	16.7%	0.7%	100%

CLTWater allocates capital costs into the same cost categories to recognize that the wastewater capital facilities were designed to accommodate both the flows and the strength of wastewater. The cost allocation process included allocating fixed asset costs to functional components and identifying an overall percentage of capital facilities dedicated to each

category. The method used to complete the fixed asset cost allocation consisted of the following steps:

1. Development of a list of fixed sewer assets, original costs, service lives and dates placed in service;
2. Depreciation of the components over their useful life to reflect each asset's service life;
3. Allocation of the net asset value to functional cost components; and
4. Development of average capital cost allocation percentages from the functional cost allocation results.

CLTWater's fixed asset records provided the net asset values. Net asset values are allocated to flow, COD, TSS, NH3-N based on a combination of the design basis and predominant purpose of the facilities. Below is a summary of the basis for the capital cost allocations (FY2021).

<b>SEWER CAPITAL COST ALLOCATION BASIS</b>	
<b>System Component</b>	<b>Allocation Basis</b>
Wastewater Collection	Costs assigned 100% to the flow component.
Flow Equalization	Costs assigned 100% to the flow component.
Screening / Grit Removal	Primary purpose is the removal of TSS and flow rates determine equipment sizing so costs assigned 50% to flow and 50% to the TSS component.
Pumping	Costs assigned 100% to the flow component.
Primary Clarification	Primary purpose is the removal of TSS and COD. Flow rates and loadings determine equipment sizing. Therefore, costs were assigned 45% to flow, 10% to COD, and 45% to TSS.
Activated Sludge	Support removal of organic matter with facilities designed based on loadings. Costs assigned 100% to the COD component.
Secondary Clarification	Process designed based on flow rates and loadings. Process supports removal of organic matter and denitrification. Therefore, costs assigned 40% to flow, 40% COD, and 20% NH3-N.
Secondary Filtration	Process designed based on COD loadings and process supports organic matter and solids removal, as well as denitrification. Therefore, costs assigned 95% to COD, 2.5% to TSS, and 2.5% to NH3-N.
Disinfection	Costs assigned 100% to the flow component.

Thickening	Costs assigned 63.6% to COD, 33.5% to TSS, and 2.9% to NH3-N, based on influent loadings and solids removal.
Dewatering	Costs assigned 63.6% to COD, 33.5% to TSS, and 2.9% to NH3-N, based on influent loadings and solids removal.
Sludge Digestion	Costs assigned 63.6% to COD, 33.5% to TSS and 2.9% to NH3-N, based on influent loadings and solids removal.
Septic Receiving	Costs assigned 58% to flow, 22.6% to COD, 14.4% to TSS, and 3.3% to NH3-N based on discharge loadings.
Water Reuse	Costs assigned 100% to the flow component.
Customer Accounts	Costs assigned 100% to the customer component.

Capital cost allocation factors were determined based on applying the fixed asset cost allocations to the net fixed asset values of each of the system components. Shown below are the resulting overall capital cost allocation factors (FY2021).

SEWER CAPITAL COST ALLOCATION FACTORS					
Flow	COD	TSS	NH3-N	Customer	Industrial Waste Charge
85.8%	7.5%	4.8%	1.1%	0.1%	0.6%

Sewer customer classes consist of residential, multi-family, commercial, industrial, high-strength commercial and high-strength industrial customers. Service requirements associated with these classes are based on billed water usage and wastewater strength loadings. Loadings data are obtained from monitoring data provided by the CLTWater staff. Average loading concentrations for all customer classes are estimated based on wastewater flow received at the plant and loadings reported in the Industrial Waste Charge Study Final Report that was prepared in 2004. Monitored customers are charged a surcharge for their metered flow in excess of domestic average concentrations in the table below.

SURCHARGE LOADING	
Cost Drivers	Domestic Averages MG/L
COD	500
TSS	250
NH3-N	20

The total estimated units of service by customer class is estimated based on the wastewater treatment plant influent data and customer data provided by CLTWater and updated as deemed appropriate.

The unit cost of service is calculated for each of the sewer cost categories by dividing the cost allocated to each cost category by the total number of estimated units of service the prior year.



Ccf Residential sewer usage is capped at 16 Ccf and customers do not pay sewer usage rates for water used beyond this amount each billing period. Multi-family (apartment) sewer usage is capped based on an average of 11 Ccf of water usage per dwelling unit per billing period, and customers do not pay sewer usage rates for flows beyond this amount.

Commercial and industrial customers using water from CLTWater's water distribution system, but not discharging all the water back into the sewer system, have the quantity of water used and not discharged back into the sewer system excluded from the sewer service charge. However, this is predicated on the quantity of water being measured by a CLTWater approved device installed and maintained at the owner's expense.

Several customers were grandfathered into the above methodology in 2001 that excludes sewer charges for an amount of water that is evaporated and not discharged into the CLTWater sewer system without the installation of a measurement device. These customers pay sewer charges based on an established percentage of total water used based on CLTWater's calculations or an independent consultant's recommendation since the amount of evaporated water not added back to the sewer is not metered separately.

## **Industrial Wastewater Program Fees and Charges**

### **Permitting and Sampling Fee for Wastewater Received from Municipalities**

The purpose of this fee is to recover costs related to permitting municipal customers to discharge wastewater to CLTWater's wastewater system through pipe connections and to recover costs related to the ongoing monitoring of this wastewater. Costs to be recovered include labor, vehicle, materials, and overhead. A different fee is assessed for permit renewals as the time required to complete a permit renewal is less than the time required for a new permit.

### **Commercial High Strength Volume Charges for Non-Monitored Customers**

Customers serviced by multi-user meters (master meters), that also serve other customers not discharging high strength wastewater, are not charged the High Strength surcharge, although a similar business that has a separate or stand-alone meter receives both the Industrial Waste Charge and the High Strength Surcharge. Typical customers served by master meters include shopping centers, strip malls and office buildings and usually there are no records to determine the water usage of individual tenants. Subsequently, this wastewater returns to the sewer system and it is impossible to measure the precise impact that each individual tenant has on the system.

The commercial high strength volume charge is assessed to non-monitored customers in the industrial waste program that discharge wastewater pollutant concentrations that are greater than the domestic loading concentrations. CLTWater calculates the high strength charge by

determining the average pollutant loadings for these customers in excess of domestic loading and calculating a volumetric high strength charge that includes the costs of treating these high strength loadings. The amount billed is determined by multiplying the high strength charge / Ccf by the volume of metered water used by the customer.

These surcharges are in addition to other sewer charges.

## **Industrial Waste Charge**

Industrial and commercial customers that discharge high strength wastewater requiring increased costs to treat relative to residential wastewater are assessed an industrial waste charge that recovers a portion of the System Protection Division costs. CLTWater assesses these charges based on flow volume. Both monitored customers (who have average daily flow greater than 25,000 gallons per day or who have special discharge permits) and non-monitored commercial customers (such as restaurants, auto repair and body shops and laundries that have high strength effluent but have insufficient flow to require continuous monitoring) are required to pay this charge.

CLTWater identifies industries that discharge industrial waste by the Standard Industrial Classification (SIC) code assigned to them when they obtained their business license. The SIC code assists CLTWater in determining the type of wastewater discharged by similar businesses.

## **Industrial High Strength Surcharges for Monitored Customers**

Industrial customers that discharge wastewater with a concentration of chemical oxygen demand (COD), total suspended solids (TSS) and ammonia-nitrogen (NH<sub>3</sub>-N) at a strength higher than domestic strength are billed a surcharge on the number of pounds of each pollutant discharged in excess of the domestic loading rate.

To determine the surcharge, the following steps occur. The monthly average of each pollutant discharged by the particular industrial customer is calculated and the average domestic loadings (refer to Surcharge Loading table in Sewer Usage Charges section) subtracted to determine the pounds of surplus loading. The pounds of surplus loading value are multiplied by the factor of 0.0062428 to determine the pounds of pollutant surcharged. The factor is a conversion factor of the National Standard pounds formula (Wastewater Flow in Million Gallons per Day (MGD) X 8.34 (weight in pounds of 1 gallon of water X pollutant concentration in mg/l) which accounts for the fact that CLTWater bills its customers in Ccfs instead of gallons.

The pollutant surcharges for COD, NH<sub>3</sub>-N, and TSS recover the entire cost to CLTWater to treat these wastes. The surcharges for all pollutants are increased by the percent required to achieve and maintain surcharges equivalent to full cost recovery of treating each pollutant. The customer's monthly invoice shows the pounds of pollutant surcharged.

## Quarterly Sampling Fee for Industrial Septic Waste Receiving

Hauled waste customers must apply for and receive a permit from CLTWater allowing them to deliver hauled waste to designated receiving stations (see Septic Waste Permit Fee). The permit must be renewed annually for the customer to continue to deliver hauled waste. On a quarterly basis for each permit, CLTWater may sample the hauled waste being delivered by customers to ensure they remain in-line with the concentrations noted at the time the permit was granted. Costs recovered with the quarterly sampling fee include labor, vehicle, materials, lab costs/sampling fees, and overhead.

## Fire Line Fees

CLTWater calculates the cost associated with fire line service using the base extra capacity methodology, as described by the AWWA. Using this methodology, the maximum day and maximum hour fire flow demands are estimated and used to determine the relative proportion of the system maximum day and maximum hour demands attributable to fire flow demands. The annual revenue requirement associated with providing fire line service is then estimated by allocating certain costs identified as related to meeting maximum day or maximum hour water demands proportionally to fire line service. CLTWater then divides the total annual revenue requirement associated with fire line service by the number of 6" fire line meter equivalents to derive the unit cost of fire line service under this method.

The maximum day and maximum hour fire flow demands are estimated based on assumptions contained in CLTWater's 2009 Water Distribution System Master Plan, prepared by Black & Veatch, Inc. (the "Master Plan") or the most recent update available. The performance criteria used in the Master Plan to evaluate the distribution system for fire flow requirements was a flow of 3,500 gallons per minute (GPM) for three hours. For the purposes of this analysis, CLTWater calculates the maximum day and maximum hour fire flow demands using the assumption of two non-simultaneous fires in a day. Summarized below is the resulting base, maximum day and maximum hour allocation factors used in the analysis (FY2021).

COST ALLOCATION DEMAND FACTORS - BASE EXTRA CAPACITY METHOD					
Cost Factor	Base	Max Day	Max Hour	Fire Flows	Total
Average Day Demand	100.0%	0.0%	0.0%	0.0%	100%
Maximum Day Demand	69.5%	29.6%	0.0%	0.9%	100%
Maximum Hour Demand	44.7%	19.6%	33.4%	2.2%	100%

Each cost category of CLTWater's budget is assigned to one of the cost factors. For any costs assigned to the direct fire, maximum day or maximum hour costs factors as shown in the above table, a portion of these costs are allocated to fire protection. Shown below is a summary of the budget categories and associated percentages of costs assigned to fire protection (FY2021).

## FIRE LINE COST ALLOCATION - BASE EXTRA CAPACITY METHOD

Functional Costs	Allocation	Rationale
Treatment - Pumping	2.2%	Treatment pumping costs allocated on a max hour basis, with the capacity required for fire protection representing 2.2% of the system's max hour demand.
Transmission	0.9%	Transmission costs allocated on a max day basis, with the capacity required for fire protection representing 0.9% of the system's max day demand.
Distribution	2.2%	Distribution costs and facilities allocated on a max hour basis, with the capacity required for fire protection representing 2.2% of the system's max hour demand.
Distribution Storage	50.0%	Distribution storage designed for two purposes: (1) to meet maximum hour demands and (2) to provide adequate pressure for fire flows, so costs assigned 50% to fire flows.
Direct Fire	100.0%	Costs associated with hydrant and fire meter maintenance allocated 100% to direct fire protection.

Using the base extra capacity method, the total fire line service revenue requirement is calculated by multiplying the CLTWater cost center budgets to the above Fire Flow Allocation with the exception of the Debt Service, CIP and Other Non-Operating Expenses and Other Revenue which included interest income, System Development Fees, miscellaneous revenue and sources/uses of funds). The Debt Service, CIP and Other Non-Operating Expenses is allocated at 2.3% and is based on the average allocation of fixed capital costs to base, maximum day, maximum hour and fire protection cost categories.

In situations where combination meters have zero usage on the high flow size meter over the past calendar year, the high flow size meter is considered a substitute for a separate, dedicated fire line connection. Therefore, the monthly availability fee is based on the low flow size meter. This condition is evaluated and adjusted periodically.

## Water and Sewer Connection Fees

The water and sewer connection fees are one-time charges for anyone desiring a new connection to the water and sewer system. These fees are paid in advance with the new service application. The 5/8" or 1" water service connection involves the construction of a lateral from the public water main to a service line on the customer's property, a meter yoke, a meter box and required appurtenances. Water service connections for larger than 1" meters involve the construction of a lateral from the public water main to a service line on the customer's property, a meter box or vault, a valve at the property line and other required appurtenances.

The sewer service connection involves the construction of a lateral from the sewer main to the edge of right of way.

Water and sewer connection fees for small taps services (5/8" to 4" meter sizes and 4" sewer connections) are established annually based on the average actual cost from the prior year to install service connections. Costs include labor, materials, any regulatory or non-regulatory fees, site restoration and mobilization charges associated with installation of these particular service connection sizes. In addition, costs associated with CLTWater staff reviewing design plans and/or performing inspection of these installations are included. Some sizes exclude exceptionally high or low historical costs (statistical outliers) to arrive at more representative costs. These small taps services are installed by a CLTWater contractor or are installed by CLTWater crews, depending upon the department's standard operating procedures.

Connection fees for larger services (greater than 4" water and 4" sewer) are based on CLTWater's estimated cost after reviewing the submitted construction design plans and site conditions. Costs include labor, materials, regulatory or non-regulatory fees, site restoration and mobilization charges associated with installation of these particular service connection sizes. In addition, costs associated with CLTWater staff reviewing design plans and/or performing inspection of these installations are included.

The connection fee only (not the System Development Fee) is discounted 10% if the connection is installed during construction of a public water or sewer main. This discount is limited to 5/8" water and 4" sewer services.

The connection fees do not apply to services installed by a developer during the construction of water /sewer systems under contract with and donated to CLTWater because in this case CLTWater does not incur a direct installation cost.

Financial assistance for service connections may be available for single-family residential residences with household incomes that are 80% or less of the Charlotte area's median household income, consisting of a special deferred payment plan for 84 months or no interest loan payments. The median household income is determined from the most recently available Census data and is based on the most current household income for the Metropolitan Statistical Area for Charlotte, Gastonia and Rock Hill. To apply for assistance, the customer must complete an assistance application and submit their most recent tax return to substantiate family size and income.

## **Fire Line Connection Fees**

Costs of fire lines are based on CLTWater's estimated cost after reviewing the submitted construction design plans and site conditions. Costs include labor, materials, regulatory or non-regulatory fees, site restoration and mobilization charges associated with installation of these particular service connection sizes. In addition, costs associated with CLTWater staff reviewing design plans and/or performing inspection of these installations are including the costs of labor, parts and mobilization. These fees are paid at the time application is made for the connection.

Industrial, commercial and multi-family customers that install fire sprinkler systems or private fire hydrants will incur a separate connection fee for each fire line.

## Water and Sewer System Development Fees

North Carolina General Statute 162A Article 8 provides for the uniform authority to implement System Development Fees for public water and sewer systems in North Carolina. System Development Fees are one-time fees paid at the time of application for a new service to recover a portion of the capital costs associated with providing the capacity to serve the new customer coming on-line. System Development Fees are levied for all new water and sewer connections, regardless of whether they are installed as a part of a donated developer project or otherwise and regardless of the process used to construct or fund them.

CLTWater's System Development Fees are calculated using the Capacity Buy-In Method which requires new customers to buy into existing backbone facilities – plants, pump stations, supply reservoirs, large collection and distribution facilities – generally at a rate that reflects the prior investment of existing customers per unit of total capacity. As described below, CLTWater's water and sewer System Development Fees increase proportionally with the water meter size requested by the customer since larger meters consume a greater share of built capacity. The following steps were completed to calculate the fees under the Capacity Buy-In Method:

1. The replacement value of existing system facilities was calculated, and adjustments were made to derive a net replacement value estimate in accordance with 162 A Article 8. Adjustments to the calculated replacement value included deducting accumulated depreciation, developer contributions, and a portion of outstanding debt.
2. The unit cost of system capacity was estimated by dividing the net replacement value of existing system facilities by the current capacity of the system.
3. The amount of capacity associated with a service unit of new development was estimated. One equivalent residential unit ("ERU") was defined as the smallest service unit of new development.
4. The System Development Fee for one service unit of development was calculated by multiplying the cost per unit of system capacity by the capacity associated with one ERU, as defined below.
5. The calculated System Development Fee for one ERU was scaled for different categories of demand. Meter capacity ratios were used to scale System Development Fees from a base meter size from the smallest unit of new development (one ERU) to different categories of demand, defined by different customer meter sizes.

### Fire Line System Development Fees

Fire Line System Development Fees are calculated using the Capacity Buy-In Method for a 5/8" water meter multiplied by the meter manufacturer's flow data divided by 2 to account for the 50% return flow change concept.

After installation, if an upgrade is requested, the original System Development Fee is refunded once the new System Development Fee is paid.

## Land Development User Fees

CLTWater's Installation and Development Services section is the plan review, plan approval, permitting and inspection agent of proposed public potable water, sanitary sewer, and reclaimed wastewater infrastructure designed, proposed, constructed or requested by private entities, including developers throughout CLTWater's service area. CLTWater charges project, plan review and inspection fees using the City of Charlotte's approved methodology for cost recovery, which is based on capturing staff time and other direct and indirect costs for these activities.

Land development user fees are charged for the following services:

### **Backflow Prevention Review**

This fee applies to plan review necessary to assure backflow prevention requirements are satisfied. Typically refers to commercial or non-single-family development. This fee would be paid when project plans requiring a backflow review are submitted for approval.

### **Backflow Prevention Device Inspection**

This fee applies to site inspection required for new backflow prevention device installation or inspection and testing of existing backflow prevention devices. Typically refers to commercial, non-single-family development or customers with dedicated irrigation service connections.

### **Infrastructure Permit: Project Initiation**

This flat fee is assessed when a new project initiation occurs. It applies to various aspects of work that typical water and/or sewer projects require, regardless of size or scope. Typically refers to new residential subdivisions, commercial projects, non-single-family developments requiring water and or sewer infrastructure construction, or their relocations. This fee is paid when plans for an extension or relocation of water and/or sewer infrastructure are submitted for review.

### **Infrastructure Permit: Plan Review**

This fee applies to construction plan review required for new development including, but not limited to, new residential subdivisions, commercial projects, or non-single-family developments requiring water and or sewer infrastructure construction, abandonment, replacement, or relocation. This fee is paid when plans are submitted.

### **Infrastructure Permit: Inspection**

This applies to construction related activity of new public water and sanitary sewer infrastructure. Projects included in these fees are new residential subdivisions, commercial, industrial, and institutional projects, non-single-family developments requiring water and or sewer infrastructure construction, abandonment, replacement, or relocation. This fee is paid when plans are approved and permitted prior to construction, abandonment, replacement or relocation of water and/or sewer infrastructure when the land developer / project owner signs a contract.

## **System Conversion**

System conversion is the conversion of an existing domestic water service to an irrigation service or vice versa. This allows for the utilization of an existing service on site rather than applying for a new service. The fee covers the cost of contractors who perform the work on behalf of CLTWater.

## **Enhanced Plan Review**

Enhanced plan reviews will be completed within 15-20 business days of the first submittal and within 5-10 business days for resubmittals. Some project exclusions apply.

# **Special Financing Programs**

## **Connection Fee Financing**

An interest-free twelve-month loan that allows the domestic water, sewer, or irrigation connection fee to be paid in equal monthly installments in conjunction with the CLTWater bill. The applicant must be the owner of the property and must be living in the home. The loan request is only for the connection fee. The system development fee, if applicable, will be due and payable at the time of service application.

## **Water / Sewer Connection Financial Assistance Loan**

An interest-free seven-year loan to install a new water and/or sewer connection for residential customers who have a verifiable financial need.

Property owners whose household income is less than eighty percent of the median income for the CLTWater service area, based on income and family size as published by Housing and Urban Development, may obtain water and/or sewer connections under this program.

The Water/Sewer Connection Financial Assistance Loan policy is in the Extension Policy of the Design Manual:

- The financial assistance program as approved by the City Council as part of this Policy and in effect on January 1, 2010 shall remain in effect until and unless revised by CLTWater as authorized in the following section.



- CLTWater is authorized to revise the financial assistance program from time to time and to administer said program for qualified property owners to assist with the cost of connecting to the system. CLTWater shall give notice of a revision to said program to the City Council and to the CLTWater Advisory Committee at least 10 days in advance of the effective date of such revision. Further approval by the City Council or the Committee is not required for such revisions to take effect. Without limiting the foregoing, CLTWater shall have the right to establish and modify the qualifying criteria for any applicable financial assistance. Property owners qualifying for financial assistance are not guaranteed assistance. A copy of the financial assistance program shall be maintained and made available for public inspection and copying in the office of the Director of CLTWater and in the office of the City Clerk for the City of Charlotte.

## **Private Water / Sewer Line Replacement Financial Assistance Loan**

An interest-free five-year loan to replace an existing private domestic water or sewer line to residential customers who have a verifiable financial need.

Property owners whose household income is less than eighty percent of the median income for the CLTWater service area, based on income and family size as published by Housing and Urban Development, may obtain water or sewer replacement lines under this program.

The property owner must make the application for the water line repair or replacement. To receive the repair or replacement, a lien will be required on the property for which service is being provided. Liens will only apply to repairs or replacements greater than \$500.00. The term of the receivable will be a maximum of five years and will be calculated at 0% interest.

Once the application is approved, CLTWater will engage the approved contractor to assess the customer's private water or sewer line. The recommended next steps may be to repair or replace the private line. The contractor will directly share recommendations and associated costs with the customer for approval and completion of the repair or replacement. The customer would be billed monthly until the repayment is satisfied.

## **HomeServe Assistance Private Line Protection Program**

CLTWater has launched a new service program with HomeServe that provides an optional private water and sewer line protection plan for our residential customers. Currently, customers are responsible for maintaining the exterior water and sewer lines on the private side of their property. This program gives customers a less expensive option for getting water and sewer lines repaired or replaced, should they become damaged.

The protection plan is available for a monthly water and sewer fee as outlined in the HomeServe agreement. If customers choose to bundle water and sewer, the price will be discounted. There will be no coverage limits for either service nor will there be a limit on the number of claims that can be made annually.

## **Non-Profit Assistance Agencies**

CLTWater and 311 partner with many agencies to aid in the process of verifying customer billing information, submitting commitments for payments, and subsequently making payments or providing loans on the customer's behalf.

## **Payment Arrangements**

Payment arrangements allow customers to extend the due date on a current balance or set up a monthly installment arrangement on a past-due or large balance. A standard payment arrangement allows up to four installments, but a supervisor may approve a longer arrangement in extenuating circumstances. Customers are asked to pay a portion of the past-due balance before they can enter into an arrangement; this requirement may also be waived by a supervisor in extenuating circumstances.

## **Authorized Civil Penalties**

### **Wastewater Discharge Restrictions (Article III of Chapter 23 of the City Code)**

These civil penalties are assessed to users of the CLTWater sewer system for violations of wastewater discharge restrictions in applicable provisions of the City Code (currently codified as Article III of Chapter 23 of the City Code) and permits and orders issued pursuant thereto.

Examples of violations include, but are not limited to, the following:

- Reports submitted up to 10 days late;
- Transcription error;
- Improper of sampling procedures;
- Failure to sample for a required parameter;
- Failure to notify CLTWater of any planned significant changes to the operations or system at least 90 days before the change;
- Failure to report a slug load discharge;
- Prohibited or unauthorized discharge that may result in damage to a Publicly Owned Treatment Works (POTWs);
- Illegally discharging grease;

- Falsification of maintenance, pumping or cleaning reports; and
- Discharge of pollutants that have not been previously approved.

The maximum civil penalty is \$25,000 per violation per day. Assessed civil penalties are determined from factors set forth in the City Code and include, but are not limited to, the following: Extent of harm caused, magnitude and duration of the violation, the cost of enforcement, whether the violation was committed willfully or intentionally and history of violation(s).

## **Backflow Prevention (Article V of Chapter 23 of the City Code)**

The purpose of these civil penalties is to protect the CLTWater water system from contamination originating in private plumbing systems. Examples of violations include the following: unprotected cross connection involving a private water system, which is an imminent, high or moderate hazard; failure to submit complete and accurate reports; and failure to test or maintain backflow-prevention assemblies as required. Maximum civil penalties for violations of applicable provisions of the City Code range from \$100 to \$1,000 per violation per day. Assessed civil penalties are determined from factors set forth in the City Code, including timeliness of correcting the violation and history of violation(s).

## **Unpermitted Modifications to Water and Sewer System (Article VI of Chapter 23 of the City Code)**

The purpose of this civil penalty is to prevent alterations to the CLTWater water and sewer system that have not been permitted. The maximum civil penalty is \$10,000 per violation per day.

## **Water Conservation (Article VII of Chapter 23 of the City Code)**

The purpose of this civil penalty is to maintain and protect the water resources available to the City/County for essential and community and business water uses during a declared water shortage. The following three phases of water conservation can be implemented:

1. Phase I, restricted – Restrictions on the manner, day of the week and/or time of day of one or more discretionary water uses and/or complete prohibitions on one or more such uses.
2. Phase II, banned - Restrictions on the manner, day of the week, and/or time of day of one or more discretionary or community and business water uses and/or complete prohibitions on one or more of such uses.

3. Phase III, emergency- Restrictions on the manner, day of the week, and/or time of day of one or more discretionary, community and business or essential water uses; and/or complete prohibitions on one or more of such uses.

Any customer that violates the mandatory water conservation control in Phase I shall be subject to a civil penalty according to the following schedule:

PHASE I		
Offense	1-1/2" Connection or Less	2" Connection or More
First	\$100	\$200
Second	\$200	\$400
Third & Subsequent	\$300	\$600

Any customer that violates the mandatory water conservation control in Phase II or Phase III shall be subject to a civil penalty according to the following schedule.

PHASE II OR PHASE III		
Offense	1-1/2" Connection or Less	2" Connection or More
First	\$200	\$400
Second	\$400	\$800
Third & Subsequent	\$600	\$1,200

## Director and Chief Financial Officer Authorized

The CLTWater Director is authorized to establish and the Chief Financial Officer is authorized to administer rates, fees, and charges for other services provided by CLTWater. These rates, fees, and charges are intended to recover the actual costs of providing services.

## Miscellaneous Rates and Fees

### Backflow Investigation Fee

This fee recovers the labor, vehicle, materials, and overhead costs associated with the investigation of illegal or unauthorized connections to the water system that may not have a backflow prevention device installed, as well as a penalty for the violation.

### Backflow Prevention Device Test Notification Fee

CLTWater requires annual testing of backflow prevention devices. The fee shall be calculated to achieve full cost recovery of the notification.

### Emergency 1" Unmetered Water Service

This charge is per day for the use of unmetered water after CLTWater has removed the meter and installed a backflow device. The charge applies when a customer has a contaminated plumbing system or private water line without backflow protection and requires water service prior to eliminating the private contamination hazard. CLTWater replaces the customer's meter with an un-metered backflow prevention device. After the customer has corrected the problem and CLTWater Lab Services has verified the water is clean, the metered connection can be restored.

## **Environmental Laboratory Services Analytical Fees**

CLTWater's Environmental Laboratory Services facility is a full-service environmental laboratory that supports CLTWater's analytical needs and those of the laboratory's external customers. The laboratory is certified to provide commercial analytical services for drinking water, wastewater, industrial discharges, and ground, surface and storm waters. External customers are billed monthly or quarterly. Fees are based on benchmark surveys of commercial laboratories and the cost components are an allocation of salaries and materials.

Fees may also be charged to external customers in accordance with approved agreements with the intent to fully offset the laboratory's cost components.

## **Meter Plug/Unplug Fee**

This fee recovers labor, vehicle, material, equipment and overhead costs incurred when a plug must be installed to stop the flow of water to the customer after other methods have been overridden or undone by the customer. When the plug is being removed, the fee excludes the cost of a plug.

## **Meter Testing Fee**

Should a customer dispute the accuracy of their water meter, the meter can be removed and tested in accordance with AWWA specifications. Should the meter test within AWWA specifications or under-register usage, the customer will be charged a meter-testing fee. Should the meter test reveal the meter was over-registering usage, the customer will be not be charged a testing fee and the applicable usage refund will be issued.

This fee recovers the labor, vehicles, tools, materials, supplies, and equipment costs necessary to have their meter tested at CLTWater's meter test facility.

## **Meter Test Cancellation Fee**

This fee recovers the labor, vehicle, material, and overhead costs necessary to assess a customer who is a "no show" when having their meter tested at CLTWater's meter test facility.

The general process is that the customer meets a CLTWater employee at their home, the meter is pulled, and the customer follows the staff person to the meter test facility to observe their meter being tested.

### **Moved Meter Fee**

This fee recovers the labor, vehicle, material, and overhead costs necessary to assess a customer or entity who has moved a meter from one location to another without authorization, as well as a penalty for the violation.

### **Reclaimed Water, Non-Potable (Per Ccf)**

In certain locations, CLTWater provides treated wastewater effluent to customers for approved re-use. Fees for this product are negotiated with each customer based on the costs and benefits in each location. In some cases, negotiated agreements may be subject to approval by Charlotte City Council.

### **Sewer, Commercial, Ground Water Remediation**

In certain situations, CLTWater accepts and treats contaminated groundwater. User fees are charged based on metered flows. The commercial sewer rate applies. Sampling at the discharge point into the sanitary sewer may be required and an additional high strength charge and industrial control charge may apply based on the flow volume and the sampling results. CLTWater will designate the location and may limit the discharge rate where contaminated groundwater is accepted.

### **Sewer Monthly Rates**

CLTWater provides sewer service to some customers who do not receive water service. In those cases where water service is not metered, CLTWater provides sewer service for a monthly flat-rate amount. The Sewer Monthly Flat Rate for residential customers is based on an average usage of 7 Ccf multiplied by the commercial sewer rate plus the sewer fixed charge plus the sewer availability fee. Actual amounts are adjusted when changes to the variables in the formula are approved.

### **Sewer, Metered, Union County**

An interlocal agreement established this charge and it is calculated based on the volume of flow received from Union County multiplied by the treatment cost at McAlpine Creek Wastewater Treatment Plant. Treatment cost at McAlpine Wastewater Treatment Plant is determined by that facility's annual budget plus overhead divided by the total estimated gallons to be treated divided by the conversion factor of 1.3368 (conversion factor applies when Union County flows are measured in Ccf instead of gallons). The amount is determined each year according to the methodology approved in the interlocal agreement.

## **Swimming Pool Water Rates**

Swimming pool rates for residential customers are charged by starting with the Tier 3 rate and progressing to Tier 4 for usage greater than 16 Ccf. Commercial swimming pools are charged for the full-metered usage. Sewer usage charges are levied for water used to fill pools because environmental regulations prohibit discharge of water from swimming pools to surface waters or storm drainage systems. Charges for sewer may be incurred, based on the amount of water used, and depending on water source used when pool was filled.

## **Unauthorized Device**

This fee recovers the labor, vehicle, material, and overhead costs incurred when a customer moves an existing water meter to another address instead of purchasing a separate meter, as well as a penalty for the violation. The penalty increases for each subsequent offence by the same customer.

## **Meter Set Fees**

### **Meter Set Fee (3/4")**

This fee recovers the labor, vehicles, materials, equipment, and overhead costs associated with meter setting or installation services for a 3/4" meter.

### **Meter Set Fee (1")**

This fee recovers the labor, vehicles, materials, equipment, and overhead costs associated with meter setting or installation services for a 1" meter.

## **Customer Service and Billing Fees and Charges**

### **After-Hours Reconnection Fee**

This fee recovers costs related to reconnecting a customer's service after hours. After hours is defined between 5 p.m. and 7 a.m. It requires a minimum of two hours and Crew Chief personnel who are on-call for such requests.

### **Bad Check Fee**

This charge is applied when a customer pays their water services bill with a check that is returned for insufficient funds. The amount of the fee is established in North Carolina General Statute § 25-3-506.

### **Delinquency Notification Fee**

Should a customer become delinquent on their water bill CLTWater at its discretion may send a notification to remind customers to satisfy their bill to avoid service interruption. The fee shall be calculated to achieve full cost recovery of the notification.

### **Disconnection / Reconnection Fee**

This fee recovers the labor, vehicle, materials, and overhead costs to disconnect or reconnect a customer to the water system.

### **Disconnect Water Service at the Water Main**

This fee recovers the labor, vehicle, material, and overhead costs associated with disconnecting water service at the connection to the street main, as well as repaving costs incurred by CLTWater.

### **Late Payment Variable Charge (Late Charge)**

This late payment charge is assessed on the unpaid balance for water, sewer and storm water charges when the City has not received the payment within 6 days after due date. The 1.5% (or current percentage) late charge is added to the next water services bill pursuant to Section 23-5 of the City Code.

### **Meter Lock/ Unlock Fee**

This fee recovers the labor, vehicle, material, equipment and overhead costs related to installing or removing a meter lock device from a customer's meter. When the lock is installed, the fee includes the cost of a lock. When the lock is removed, the fee excludes the cost of a lock.

### **Meter Obstruction Fee**

Water service meter installations must always be accessible. It is the customer's responsibility to ensure the meter always remains clear and free from obstructions and debris. This fee recovers the labor, vehicle, material, and overhead costs incurred when a CLTWater staff member arrives at a property but is unable to access the meter due to some sort of obstruction caused by the customer.

### **Meter Relocation Fee (Including meter boxes in driveway/sidewalk)**

If a driveway is constructed over an existing meter box, CLTWater may relocate the service at the customer's expense. It is the practice of CLTWater to not set new meters in meter boxes located in driveways and the cost to relocate the box and service line out of the driveway will be determined on an at-cost basis.



## **Non-Compliance Fee**

Pursuant to Section 23-181(d), the violation of any section of Chapter 23 of the City Code may be punished by a civil penalty according to the following schedule:

- 1) Unprotected cross connection involving a private water system which is an imminent hazard (\$1,000.00)
- 2) Unprotected cross connection involving a private water system which is a high hazard (\$750.00)
- 3) Unprotected cross connection involving a private water system which is a moderate hazard (\$500.00)
- 4) Unprotected cross connection for which no other civil penalty is prescribed (\$250.00)
- 5) Submitting false records which are required to be submitted by this article (\$1,000.00)
- 6) Submitting incomplete records or failing to submit records which are required to be submitted by this article (\$500.00)
- 7) Failure to test backflow-prevention assemblies as required (\$100.00)
- 8) Failure to maintain backflow-prevention assemblies as required (\$100.00)
- 9) Any other violation of the article (\$100.00)

## **Service Fee, New Service**

This is a fee applied when a customer requests to turn on or transfer water/sewer service from one service location to another. This fee is included on the customer's first water services bill and recovers the labor, vehicle, materials and overhead costs associated with the activation of service at their location. The fee also includes the cost of a CharMeck 311 phone call.

## **Security Deposits for Commercial Users**

Refundable deposits are required from all commercial users at the time of application for new services. The deposit due is according to published rates and is based on customer type and meter size. If a payment for services provided is not received, the City may discontinue water and/sewer service and charge the unpaid amount against the deposit. The remaining deposit will be credited on the final water services bill.

## **Unauthorized Fire Line Usage Fee**

Should a dedicated fire line record usage for purposes other than a fire or fire system testing, the estimated water usage and applicable sewer charges are billed to the account.

## **Unlawful Connection Fee**

This civil penalty is assessed if there has been an unauthorized connection to the CLTWater water or sewer system. CLTWater is authorized to charge civil or other penalties in

accordance with local, state, and federal regulations. See Section 23-137 of the City Code for additional guidance.

### **Water Connection or Meter Damage Fee**

This fee recovers the labor, vehicle, material, and overhead costs incurred to address damages to the customer's meter or at the connection site.

In addition to time and materials, it includes a manual entry for the actual cost incurred by CLTWater to repair the meter or connection site.

## **Hydrant Fees and Penalties**

### **Temporary Hydrant Water**

CLTWater manages non-Fire Department use of hydrants when customers request various types of water use from hydrants. The intent of the fees applied is to recover actual costs incurred for establishing and maintaining the connection and to charge a fee for the water used in accordance with prevailing rates. Usage is set at the Commercial water and sewer rates.

### **Unauthorized Use of Hydrant Fee**

This fee is levied when an unpermitted connection is made to a CLTWater fire hydrant. The user will be charged the labor, vehicles, tools, materials, supplies, and equipment costs associated with investigating the unpermitted connection, a fee based on the estimated usage, and a penalty of \$250 for the violation.

### **Emergency 3/4" Jumper/Backflow Installation Fee**

This fee is charged when an urgent or emergency connection is required for a 3/4" connection. There are two components to this fee. The first component is a one-time fee for the labor, vehicles, materials, and overhead costs required to install the backflow prevention device. The second component is the daily rental fee associated with the backflow prevention device equipment.

### **Emergency 1" Jumper/Backflow Installation Fee**

This fee is charged when an urgent or emergency connection is required for a 1" connection. There are two components to this fee. The first component is a one-time fee for the labor, vehicles, materials, and overhead costs required to install the backflow prevention device. The second component is the daily rental fee associated with the backflow prevention device equipment.

## **Hydrant Meter Connection / Relocation Fee (3/4" Meter)**

This fee is related to the installation of meter and backflow prevention device equipment on hydrants for special uses using a 3/4" meter. The labor, vehicle, material, and overhead costs related to installing the meter and backflow prevention device are billed once. Rented equipment is charged separately on a per month basis.

With the intent to mimic commercial accounts, temporary hydrant connection customers will be charged the following rates and/or fees when applicable:

- Water use at the current Non- Residential (Commercial) Water Rate
- The applicable water availability fee
- The applicable sewer availability fee
- The applicable fixed fee(s)
- Administrative Fee at the creation of a customer account
- The applicable commercial account security deposit

Customers using this service are subject to late fees, delinquency fees, penalties, and other applicable fees according to the same procedures as customers with standard connections.

## **Hydrant Meter Connection / Relocation Fee (1-1/2" Meter)**

This fee is related to the installation of meter and backflow prevention device equipment on hydrants for special uses using a 1-1/2" meter. The labor, vehicle, material, and overhead costs related to installing the meter and backflow prevention device are billed once. Rented equipment is charged separately on a per month basis.

With the intent to mimic commercial accounts, temporary hydrant connection customers will be charged the following rates and/or fees when applicable:

- Water use at the current Non- Residential (Commercial) Water Rate
- The applicable water availability fee
- The applicable sewer availability fee
- The applicable fixed fee(s)
- Administrative Fee at the creation of a customer account
- The applicable commercial account security deposit

Customers using this service are subject to late fees, delinquency fees, penalties, and other applicable fees according to the same procedures as customers with standard connections.

## **Hydrant Meter Connection / Relocation Fee (2-1/2" Meter)**

This fee is related to the installation of meter and backflow prevention device equipment on hydrants for special uses using a 2-1/2" meter. The labor, vehicle, material, and overhead costs related to installing the meter and backflow prevention device are billed once. Rented equipment is charged separately on a per month basis.

With the intent to mimic commercial accounts, temporary hydrant connection customers will be charged the following rates and/or fees when applicable:

- Water use at the current Non- Residential (Commercial) Water Rate
- The applicable water availability fee
- The applicable sewer availability fee
- The applicable fixed fee(s)
- Administrative Fee at the creation of a customer account
- The applicable commercial account security deposit

Customers using this service are subject to late fees, delinquency fees, penalties, and other applicable fees according to the same procedures as customers with standard connections.

### **Hydrant Meter Connection / Relocation Fee (3" Meter)**

This fee is related to the installation of meter and backflow prevention device equipment on hydrants for special uses using a 3" meter. The labor, vehicle, material, and overhead costs related to installing the meter and backflow prevention device are billed once. Rented equipment is charged separately on a per month basis.

With the intent to mimic commercial accounts, temporary hydrant connection customers will be charged the following rates and/or fees when applicable.

- Water use at the current Non- Residential (Commercial) Water Rate
- The applicable water availability fee
- The applicable sewer availability fee
- The applicable fixed fee(s)
- Administrative Fee at the creation of a customer account
- The applicable commercial account security deposit

Customers using this service are subject to late fees, delinquency fees, penalties, and other applicable fees according to the same procedures as customers with standard connections.

### **Hydrant Meter Connection / Relocation Fee (4" Meter)**

This fee is related to the installation of meter and backflow prevention device equipment on hydrants for special uses using a 4" meter. The labor, vehicle, material, and overhead costs related to installing the meter and backflow prevention device are billed once. Rented equipment is charged separately on a per month basis.

With the intent to mimic commercial accounts, temporary hydrant connection customers will be charged the following rates and/or fees when applicable:

- Water use at the current Non- Residential (Commercial) Water Rate
- The applicable water availability fee
- The applicable sewer availability fee
- The applicable fixed fee(s)
- Administrative Fee at the creation of a customer account
- The applicable commercial account security deposit

Customers using this service are subject to late fees, delinquency fees, penalties, and other applicable fees according to the same procedures as customers with standard connections.

## **Hydrant Meter Device Damage**

This charge is assessed to the customer based on damages to hydrants or hydrant meter installations while the customer is/was in possession of the temporary hydrant connection assembly. The customer is invoiced the cost for any necessary repairs or replacements based on actual costs.

## **Hydrant Meter, Residential Swimming Pool Fill**

This fee applies to the use of a hydrant for filling or adding water to swimming pools. This fee includes two service fees (one to set up equipment and one to disassemble equipment) recovering the labor, vehicles, tools, materials, supplies, and equipment costs. Additionally, the volume of water used is multiplied by the third-tier residential rate for usage between 0 and 16 Ccf and the fourth-tier residential rate for usage over 16 Ccf. Appropriate sewer fees may also be levied.

## **Moved Hydrant Meter Fee**

This fee recovers the labor, vehicle, material, and overhead costs incurred by CLTWater when a hydrant meter is moved from one location to take water at another location, without authorization, as well as a penalty for the violation.

## **Sterilize Connection/CLTWater Laboratory Services**

This add-on fee is assessed when a customer desires to connect to a fire hydrant to provide temporary potable water. The fee includes the labor and overhead costs for a CLTWater employee to clean and flush connections in addition to the prevailing lab fee(s) established by the CLTWater Laboratory Services Division.

# **Truck Fees and Penalties**

## **Permit Decal Replacement**

This fee recovers the labor, materials, and overhead costs associated with re-issuing a tanker, sweeper, or vacuum truck permit to a user that has lost the permit decal sticker. This fee does not act as a penalty to users for not maintaining the decal sticker, but only serves to recover the costs incurred by CLTWater.

### **Sweeper Truck Permit Fee**

This fee recovers the labor, materials, and overhead costs required to inspect a sweeper truck and ensure the crew is properly trained on tapping into the fire hydrant or other approved water source, as well as the cost of the physical decal permit.

Water use is charged separately at the commercial water rate plus applicable fixed and availability fees.

### **Tanker Truck Permit Fee**

This fee recovers the labor, materials, and overhead costs required to inspect a tanker truck and ensure the crew is properly trained on tapping into the fire hydrant or other approved water source, as well as the cost of the physical decal permit.

Water use is charged separately at the commercial water rate plus applicable fixed and availability fees.

### **Truck Meter Penalty**

This fee recovers the labor, vehicle, materials, and overhead costs associated with the unauthorized use of water by a tanker, sweeper, or vacuum truck; as well as a penalty for the violation.

### **Truck Mounted Meter Usage (Per Ccf)**

This fee applies to the amount of metered water used multiplied by the commercial water rate.

### **Vacuum Truck Permit Fee**

This fee recovers the labor, materials, and overhead costs required to inspect a vacuum truck and ensure the crew is properly trained on tapping into the fire hydrant or other approved water source, as well as the cost of the physical decal permit.

Water use is charged separately at the commercial water rate plus applicable fixed and availability fees.

## **Private Meter Fees and Penalties**

### **Sewer, Private Deduct Meter**

This fee serves to recover the labor, vehicle, materials and overhead costs related to setup and inspection of private sewer meters.

These meters measure the actual wastewater flow. They are typically installed at production/manufacturing/industrial facilities where much of the water consumed by the customer is incorporated into the product, evaporated, or not discharged into the wastewater system for some other reason.

### **Sewer, Private Meter, Unmetered Water Fees**

This fee serves to recover the labor, vehicle, materials and overhead costs related to setup and inspection of private sewer meters.

These meters measure the actual wastewater flow of customers who use private wells and for which CLTWater does not have metered water data. These meters measure actual wastewater flows for billing purposes.

### **Water, Private Meter, Bleed-Off**

Some commercial and industrial customers have private meters installed to measure water used to maintain localized water quality that is not returned to the sewer system. This fee recovers the labor, vehicles, materials, and overhead costs incurred to ensure the meters meet CLTWater standards and have read compatibility with a transmitter as specified by CLTWater.

### **Water, Private Meter, In-Product**

Some commercial and industrial customers have private meters installed to measure water used in their production processes that is not returned to the sewer system. This fee recovers the labor, vehicles, materials, and overhead incurred to ensure the meters meet CLTWater standards and have read compatibility with a transmitter as specified by CLTWater.

### **Water, Private Meter, Lawn/Fountain**

Some commercial and industrial customers have private meters installed to measure water used in landscaping or decorative water fountains that is not returned to the sewer system. This fee recovers the labor, vehicles, materials, and overhead costs incurred to ensure the meters meet CLTWater standards and have read compatibility with a transmitter as specified by CLTWater.

### **Water, Private Meter, Makeup**

Some commercial and industrial customers have private meters installed to measure water used that is not returned to the sewer system. This fee recovers the labor, vehicles, materials, and overhead costs incurred to ensure the meters meet CLTWater standards and have read compatibility with a transmitter as specified by CLTWater.

### **Water, Private Meter, Other**

Some commercial and industrial customers have private meters installed to measure water used in situations other than those mentioned elsewhere in this section and is not returned to the sewer system. This fee recovers the labor, vehicles, materials, and overhead costs incurred to ensure the meters meet CLTWater standards and have read compatibility with a transmitter as specified by CLTWater.

## **Septic Waste Fees**

### **Septic Waste Permit Fee**

This fee recovers the labor, materials, and overhead costs associated with the initial inspection and permitting of customers discharging septic waste at select locations throughout the system. It is billed annually.

The permit fee approval process is lengthier than for other permit fees. It includes a detailed review of the permit application, an inspection of the customer's truck, sampling, and the setup of the customer's account in the billing system. In addition, all customers must attend an annual 3-4-hour training session (time and materials for the training session are not included in the calculation).

### **Septic Waste Receiving (per Gallon)**

CLTWater accepts domestic septic tank and portable toilet waste at designated receiving stations from septic waste haulers permitted by CLTWater. Haulers are charged a fee per gallon dumped. The fee is based on the unit cost of treating the wastewater constituents of chemical oxygen demand (COD), total suspended solids (TSS), and ammonia-nitrogen (NH<sub>3</sub>-N) and the estimated excess concentration of these constituents in the hauled waste being received as compared to their estimated concentrations within normal domestic strength wastewater (COD = 500 mg/l; TSS = 250 mg/l; NH<sub>3</sub>-N = 20 mg/l). This fee is reviewed annually and may be adjusted as needed.