

# METROPOLITAN NORTH GEORGIA WATER PLANNING DISTRICT

## CONSERVATION PRICING GUIDANCE

### JANUARY 2014

#### INTRODUCTION

All water systems in the Metropolitan North Georgia Water Planning District (Metro Water District) are required to implement conservation pricing as a means to reduce excessive discretionary water use, especially outdoor irrigation. This requirement is described in the Metro Water District's 2009 Water Supply and Water Conservation Plan (Plan) in Conservation Action Item 5.1.

The intent of this document is to provide guidance on conservation pricing as it relates to the various customer classes. The action item states that utilities in coordination with local governments should perform the following tasks:

- Perform a rate analysis to develop a minimum 3-tiered water conservation pricing schedule.
- Determine appropriate commercial rates for the service area.
- If irrigation meters are allowed, develop an irrigation meter pricing schedule that recognizes the impact on peak demand from irrigation.
- Assess billing system functionality of new software to facilitate conservation.
- Periodically review and adjust conservation pricing to respond to changes in demand and ensure sufficient operation and maintenance funds are available.

When developing rate structures there are some basic considerations: revenue recovery, financial stability, customer equity, cost of serving the customer class, average consumption volume by customer class and impact to affected customers. This guidance document will provide an overview of the various types of rate structures as well as recommended approaches for various types of customer classes.

#### SUCCESSFUL CONSERVATION AND FINANCIAL STABILITY

The result of successful conservation pricing is that customers become more efficient in the use of water. This generally means customers use a smaller volume of water compared to a similar time frame before conservation pricing. For the utility, this means a reduction in revenue, and it may mean a revenue stream that is less predictable for coverage of a utility's fixed costs. Fixed operations and maintenance costs are those costs that do not vary with the volume of water produced, such as personnel, billing, meter reading, and repayment of bonds or loans. Fixed costs are, on average, a majority of the O&M costs of the average utility. A base service fee that does not include any volume of water is one approach to reducing the volatility of the revenue stream.

A base service fee, sometimes called a base rate, fixed rate, service availability fee or other name, is used in rate structure design to produce a reliable revenue stream that covers most, or

all, of the utility's fixed O&M costs. The base service fee is charged to each customer every billing period, regardless of the volume of water the customer actually used, even if that use was zero. The base service fee is a useful tool well worth considering when adjusting or redesigning your rate structure.

## **WATER RATE STRUCTURES**

In general, there are three major categories of water rate structures. They include increasing block, uniform, and decreasing block.

### **Increasing Block Rate**

The most commonly used rate structure in the Metro Water District is the increasing block rate structure. This rate structure is considered an aggressive water conservation measure. With this rate, the price per unit increases as consumption increases. The increasing block rate is a type of tiered rate that may have 2 or more tiers. As a required water conservation measure in the Water Supply and Water Conservation Management Plan, all water utilities in the Metro Water District must implement at least a three-tiered rate structure for single family customers.

#### *Seasonal and Excess Use Surcharges*

Excess use surcharges and seasonal surcharges are variations of the increasing block rate or increasing tiered approach that are used by some water systems in the Metro Water District. These approaches may apply increasing blocks based on volume used in the spring and summer seasons or may be a fixed tiered charge for excessive use.

### **Uniform Rate**

The uniform rate structure promotes water conservation because the cost of water is directly proportional to the amount of water used. The price per unit remains constant regardless of consumption. Uniform rates serve 0.08 percent of single family customers in the Metro Water District.

### **Decreasing Block Rate**

In a decreasing block rate structure, the price per unit decreases as consumption or volume increases. This rate structure is beneficial to large users and is considered a disincentive to conservation. Decreasing block rate structures are not allowed within the Metro Water District and none of the water utilities use this pricing structure.

Figure 1 shows the relationship between the price per unit and the cost to the customer for the three types of rates found in the Metro Water District.

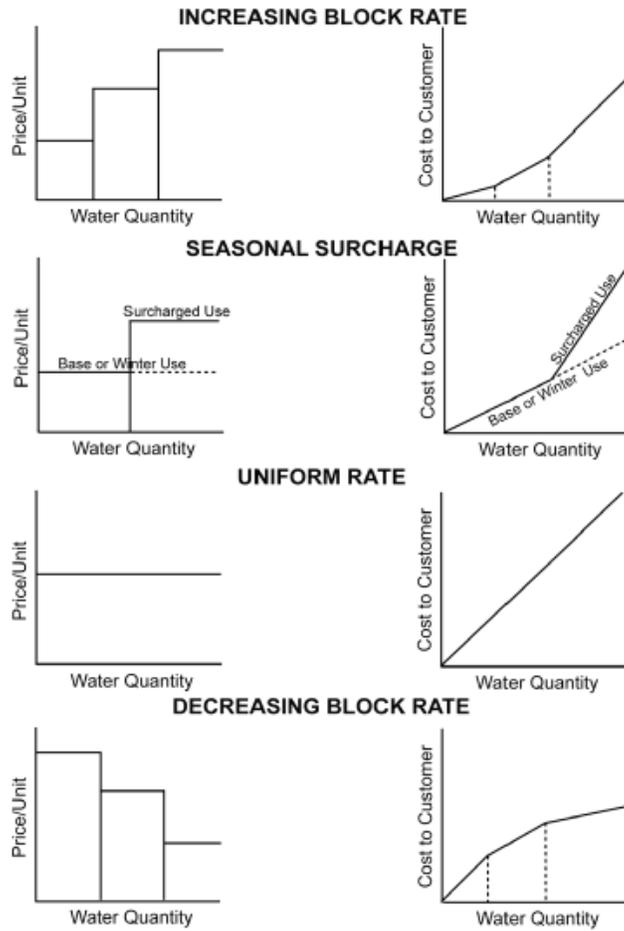


Figure 1. Shows the relationship between the price per unit and the cost to the customer for the three types of rates found in the Metro Water District.

## SINGLE FAMILY RESIDENTIAL

All Metro Water District water providers should be implementing at least a 3-tiered rate structure. It is important to note that local water providers may elect to create more than three tiers to further enhance water conservation and revenue needs. Table 1, for example, provides guidance for setting effective conservation rates for single-family residential classes.

Tier	Water Use	Rate
First Tier (Conservation Tier)	125% of the average winter use for the customer type/meter type	Base Rate
Second Tier (Middle Tier)	Bound by the first tier and the third tier	At least 25% above base rate
Third Tier (High Use Tier)	Highest 5-10% of customers or the customers who use 10-20% of the total water volume	At least 200% above base rate

Rate setting is left to the discretion of the utility, and it is important to reiterate that only decreasing block rates are prohibited within the Metro Water District.

## MULTIFAMILY RESIDENTIAL

There are key factors to consider when setting rate structures for multifamily properties:

- Many multifamily properties are predominantly master metered – the property owner receives one bill and has to recoup the cost of service from the tenants. These properties are larger; predominantly non-owner occupied, and can share characteristics with traditional commercial customers. Though these larger properties have higher-volume consumption patterns, usage is typically uniform with low peak demand.
- Smaller multifamily properties that are owner-occupied typically share consumption patterns with single-family residential customers and may be considered part of the residential customer class.

There are several approaches that utilities may consider when setting rates for multi family properties.

- Utilities may elect to implement a tiered rate structure that is applied to all users, but with differing break points of consumption based on customer class or meter size. Table 2 demonstrates how the differing break points would apply to a single-family residential customer as well as a multi-family residential customer billed monthly. In this example, the multi-family property has at least 20 units and is serviced by a master meter.

Tier	Rate	Single Family Residential Break Points	Multi-Family Residential Property Break Points
First Tier (Conservation Tier)	125% of the average winter use for the customer type/meter type	0 to 6,000 gallons	0 to 150,000 gallons
Second Tier (Middle Tier)	25% increase over the first tier	6,001 – 9,000 gallons	150,001 to 225,000 gallons
Third Tier (High Use Tier)	100% increase over the first tier	Over 9,000 gallons	Over 225,000 gallons

- A utility may also elect to set one tiered rate structure, regardless of varying rates of consumption. In this case, charges would be applied as if all usage is evenly split amongst every habitable unit. Utilities may elect to set their rates for multi-family properties based on the total number of units. In this example, we will look at a sample rate structure for a property with 100 occupied units. On a given month, the property consumes 400,000 gallons. The utility would apply a base charge of \$7.00 per unit and divide the total consumption by the number of occupied units.

The utility would then apply a tiered rate structure (as described below) to determine the amount each tenant would owe for that billing cycle.

Sample Rate Structure with a Base Charge of \$7.00 per Occupied Unit.		
Tier	Water Use	Rate
First Tier (Conservation Tier)	0 – 3,000 gallons	\$2.50/1,000 gallons
Second Tier (Middle Tier)	3,001 – 10,000 gallons	\$4.00/1,000 gallons
Third Tier (High Use Tier)	10,001 gallons and above	\$6.00/1,000 gallons

**Sample Bill**

Using the above rate structure, the 100-unit multi-family property would charge \$7.00 per unit and divide the total consumption (400,000 gallons) by the number of units. The amount each tenant owes is \$18.50 for this monthly cycle. The calculations are described below:

Water Use: 400,000 gallons/100 units = 4,000/unit

Rate for first 3,000 gallons	= \$2.50 x 3	= \$7.50
Rate for remaining 1,000 gallons	= \$4.00 x 1	= \$4.00
Base Rate		= \$7.00

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**Total Bill Per Unit = \$18.50**

This approach encourages conservation while also maintaining equity when applying tiered rate structures to different types of properties.

- In instances when water use patterns are uniform, a uniform rate structure may be more equitable than an increasing block rate while discouraging excessive consumption that typically accompanies decreasing block rate structures.

**IRRIGATION**

Irrigation meters typically allow the water customer to avoid sewer charges that accompany water rates. However, irrigation poses an added burden to the local water system by creating large peaks in water demand. Irrigation rates should reflect the impact that high peak demand places on the system and should encourage conservation.

The Metro Water District Water Supply and Water Conservation Management Plan states that if water providers allow the use of irrigation meters, the set rate should be significantly higher than the rate of indoor use. At a minimum, the rate for irrigation use should be equal to or greater than 200 percent of the first tier. Utilities may elect to discourage the use of irrigation meters through high fees for the purchase and installation of the meters.

## COMMERCIAL

Several utilities include multi-family, institutional and industrial customers as part of their commercial customer class. These classes should be analyzed to determine the best approach to encourage conservation.

As discussed in the multi-family residential section, it may be appropriate to apply increasing block rate structures with break points in consumption that reflect the appropriate consumption patterns for these commercial customers. However, large volume consumers or customers with highly diversified demand patterns may be negatively impacted by an increasing block rate structure. Utilities may still be able to promote conservation by continuing to disallow decreasing block rates and applying a uniform rate structure to these customer classes.