



## ARLINGTON COUNTY, VIRGINIA

**County Board Agenda Item  
Meeting of April 19, 2008**

**DATE:** March 26, 2008

**SUBJECT:** Adopt the proposed amendments to the Utilities Ordinance related to Water Service Connection Charges.

**C. M. RECOMMENDATION:**

Adopt the proposed amendments to Chapter 26, Article I (Utilities Ordinance) of the County Code to increase charges for water service connections, fire flow tests, and drainage fixture unit inspections; impose charges for meter installations, water service discontinuations and meter box relocations; and remove charges for fire line installations, to be effective on July 1, 2008.

**ISSUES:** Should the County amend the Utilities Ordinance to fully recover the County's costs incurred in providing water service connections and related services? The recommended modifications to the Utilities Ordinance are provided in **Attachment A**.

**SUMMARY:** The fees for the installation of new water services that provide water from Arlington County mains to private properties no longer reflect the cost incurred by the County to provide these services. The fees for these water service installations have not been increased in over fifteen years; some fees have not been raised in twenty years. A study by County staff was conducted to reconcile the discrepancy between current revenue and expenses for water service installations. Other related miscellaneous charges, such as Fire Flow Tests, have not been revised in over ten years; these too were included in the study.

**BACKGROUND:**

*Water Service Installation Charges*

Water services are those water lines that run from the main to the property line and terminate at a water meter. The work typically includes excavation to access the water main in the street, a connection to the water main, installation of pipe from the connection to a meter box or vault, and provision of a water meter and restoration to the pavement, curb, gutter, sidewalk and utility strip. This portion of the water service is publicly owned. Private owners connect to a pipe left stubbed out of the meter box or vault. Before County staff installs these services, Water Service Connection Charges are collected to cover the installation cost. The labor, equipment and material costs vary with the size of the connection, which the proposed fees reflect. These fees are only intended to recover the County's costs for the installation of the water service.

County Manager: \_\_\_\_\_

County Attorney: \_\_\_\_\_

Staff: Marlee Franzen, Department of Environmental Services

Of the approximately 170 water services installed each year by the County, 160 have a diameter of 2-inches or less. These small services primarily serve residential development or light commercial projects. Large water services (typically 3-inch and greater) typically serve larger developments such as multi-family residential and multi-story commercial buildings. Approximately 10 large services are installed each year by County staff.

#### *Meter Installation Charge*

For development projects where new water mains are being constructed, the County will allow the Developer to install the water services with the exception of the meter. After the services pass inspection by the County, County staff will install the water meter. To better recover the labor, equipment and material costs associated with installing a meter, staff is proposing establishing a Meter Installation Charge.

For most services the meter size is the same as the service size. The only exception is the 1-inch service which is comprised of 1-inch copper tubing but has a ¾-inch meter to record water use.

#### *Water Service Discontinuation Charge*

As redevelopment occurs in the County, existing water services may no longer be appropriate to serve the new development because they are in an undesirable location or are inadequate for the new development. In either case, during project planning it is determined that existing water services will not be used by the new development. Water services that will no longer be used present potential public safety hazards. Water in these services is stagnant and in the event of a water main break, this water can be pulled into the main, contaminating the fresh water supplies. The unused water service may also develop a water leak that could result in property damage. Consequently, water services that will no longer be used by a given parcel are discontinued. Historically, this service has been provided at no charge by the County. To better recover labor, equipment and material costs associated with discontinuing a water service, County staff is proposing establishing a Water Service Discontinuation Charge.

#### *Meter Relocation Charge*

For other redevelopment projects existing water services are adequate to serve the new development. However, some minor changes on site may hinder County staff from accessing the meter. If the meter can be relocated five feet or less while providing adequate access, the County would prefer to move the meter rather than discontinuing the service and installing a new one. This also reduces the cost to the property owner. To better recover the material and labor costs associated with this relocation, staff is proposing establishing a Meter Relocation Charge.

#### *Fire Flow Test Charge*

Fire Flow Tests provide current fire flow and water system pressure information and are typically requested by developers in order for them to complete their fire protection, plumbing or irrigation designs. These tests involve measuring the flow and pressure at multiple points within the distribution system simultaneously. Calculations are then performed to estimate the fire flow available. Approximately 45 tests are performed each year. Of these tests, roughly 50 percent are development related. To better recover the labor and equipment costs associated with this work, staff is proposing revising the Fire Flow Test charge.

*Drainage Fixture Unit Inspection Charge*

When developers initially connect to the water and sewer system or make changes to existing structures that will create additional demand for water or sewer services, they are charged an Infrastructure Availability Fee based on the Drainage Fixture Units (DFUs) associated with the proposed development. DFUs are a standard unit of measurement that is used to quantify the drainage capacity needed to accommodate water fixtures. For redevelopment projects, there are standard DFU credits for demolished structures as set forth in Appendix A of the County Water Rules and Regulations adopted by the County Board. If a property owner believes his structure has more DFU credits than the standard credit, he may request a Drainage Fixture Unit Inspection. County staff will go to the structure and determine its DFU credit by inventorying the existing plumbing fixtures. On average approximately 35 inspections are conducted per year. To better recover the labor costs associated with this work, staff is proposing revision of the Drainage Fixture Unit Charge.

*Fire Line Installation Charge*

The Fire Line Installation Charge was created to cover the cost of tapping a water main and installing a valve at the main for a fire line. The Developer is responsible for connecting to the valve and running the fire line to the new structure. In almost all cases, the developer installs the fire line valve at the same time they are working in the street installing the fire line, resulting in no need for this service from the County. According to historical work order data, only two requests have been made to the County to install fire line valves in the last five years. Consequently, County Staff is proposing that this charge be eliminated from the Utilities Ordinance.

**DISCUSSION:**

*Water Service Connection Charges – Table 1*

<b>Table 1: Water Service Connection Charges</b>					
<b>Service Connection Size (inches)</b>	<b>Meter Size (inches)</b>	<b>Current Connection Charge</b>	<b>Proposed Connection Charge</b>	<b>Utilities Ordinance Reference</b>	<b>Year When Current Rate was Established</b>
1	¾	\$1,600.00	\$3,200.00	§ 26-12	1990
1-1/2	1-1/2	\$2,000.00	\$4,600.00	§ 26-12	1990
2	2	\$3,600.00	\$4,800.00	§ 26-12	1988
3	3	\$10,600.00	\$19,800.00	§ 26-12	1988
4	4	\$11,500.00	\$21,200.00	§ 26-12	1990
6	6	\$13,500.00	\$23,200.00	§ 26-12	1990
8	8	\$15,500.00	\$25,300.00	§ 26-12	1990

There is a significant difference between the current fees and the proposed fees. The primary reason for these increases is that a majority of the current Water Service Connection Charges listed in Table 1 were last revised eighteen years ago. Given the length of time and historic increases in material costs as well as recent surges in copper, asphalt and concrete costs, County staff believes that it is necessary to update these fees.

The cost for installing services can be divided into two subgroups: small services (2-inch and smaller) and large services (3-inch and larger). In reviewing the proposed charges for water service installations in Table 1, it is apparent that smaller services are much less than larger services. The primary reason for this is the materials required for the given service size. For example, flexible copper tubing is used for small services while large services use ductile iron pipe. Other differences include the number of fittings and valves and size of appurtenances. For example small services have smaller meters, which in turn are housed in a meter box. For 1-inch services, these boxes are 18 inches in diameter. For larger services (3-inch and larger), the meters are housed in a concrete vault that is 10-ft by 8-ft. These differences result in more expensive material costs for larger services. The larger more cumbersome materials associated with larger services also result in additional equipment and labor costs.

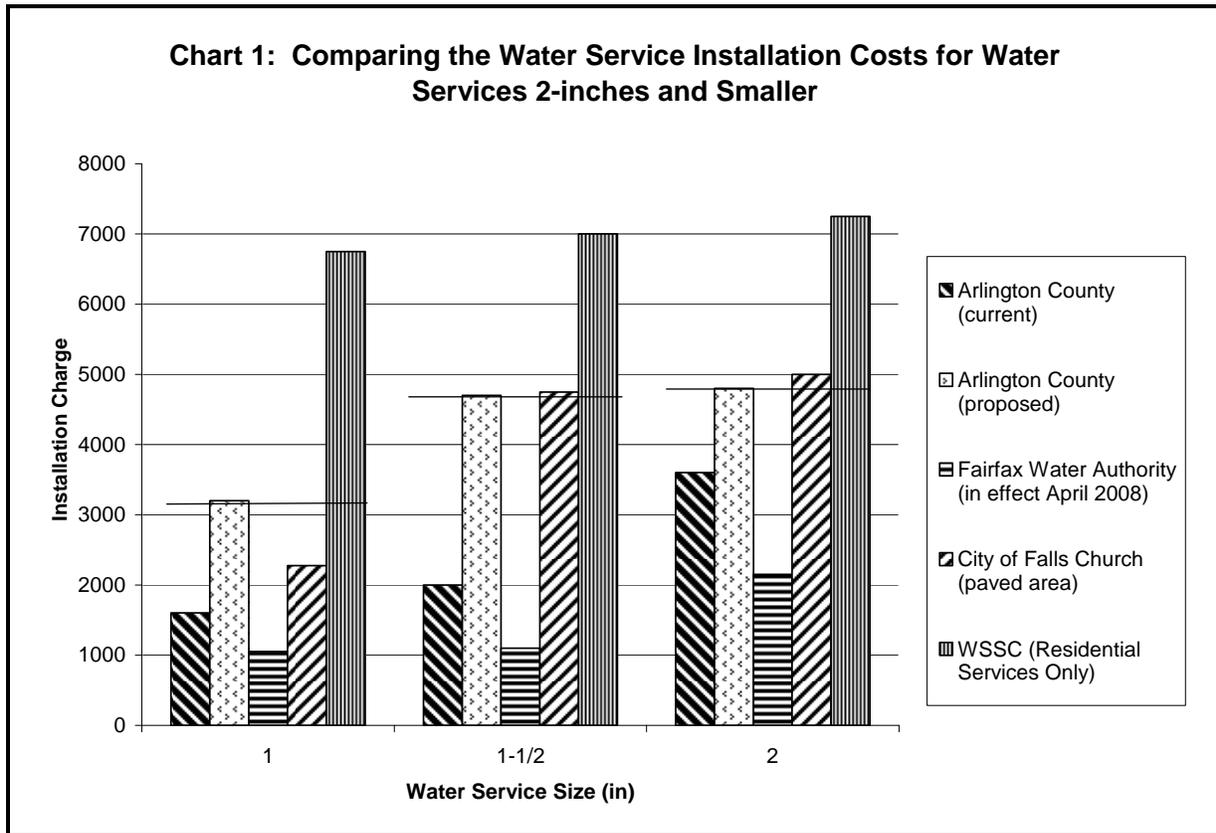
To determine the proposed fee structure, County staff utilized historical County work order data as well as current material costs. To verify the reasonableness of fee increases, staff analyzed the fees using the Construction Cost Index (CCI) published by the *Engineering News-Record*, comparisons to contract prices and comparisons to fees in adjacent jurisdictions.

The first method was to adjust the current fees using the CCI. This is a standard construction index used to adjust construction costs for inflation. For those water services classified as large (3-inch diameter or greater), the proposed charges were in line with the adjusted charges. For those water services classified as small (2-inch and larger) there was more variability. The percent difference between proposed and CCI-estimated charges for the 1-inch and 1-1/2-inch services are 17 and 30 percent respectively. The proposed 2-inch service charge is approximately 30% lower than the CCI-adjusted charge.

The second method was to estimate the cost to install a water service based on the County's current Water Maintenance contract. This contract has line items for 1 and 1-1/2-inch service installations as well as a line item for 2-inch service installations. Staff used the contract and estimated various installation scenarios. In general the estimates based on the Water Maintenance contract were less than the proposed charges. However, the Water Maintenance contract line items are based on water main installation work where the contractor is typically on site installing new water mains and therefore does not need to make a separate trip to install one water service. Consequently for this type of work, one would expect that the price for service installations would be lower.

The last method used to verify the reasonableness of these charges was to compare the proposed fees with other jurisdictions. Researching other jurisdictions' fee schedules revealed that each water provider has slightly different fee schedules and installation policies, which meet the needs of their communities and water systems. Consequently, some jurisdictions typically do not install water services (Loudoun County and Prince William County). Some only tap the public water main for small services (DC Water and Sewer Authority), while others like Fairfax Water Authority, the City of Falls Church, and Washington Suburban Sanitary Commission offer fee schedules for the installation of small water services. For most local jurisdictions, large services are installed by the developer. Falls Church has a fee based on actual cost plus 25 percent for overhead. Consequently, staff's analysis of local jurisdictions focused only on small water

service installations. Chart 1 depicts the fees for the installation of small water services (1, 1-1/2, and 2-inch) from those local jurisdictions that have fees for these installations.



In the Chart 1, Fairfax Water Authority’s proposed rate schedule for 2008 is dramatically lower than the County’s proposed rates. In fact its proposed rates are less than the rates Arlington established in 1988 and 1990. As mentioned above, there are differences between local jurisdictions that make an “apples to apples” comparison difficult. A majority of Fairfax Water Authority’s water services are installed in new subdivisions with unpaved roads. These subdivisions typically require that the Water Authority install multiple services rather than one or two. Because of these site conditions, costs related to mobilization, excavation, and surface restoration are much less and result in the Water Authority having lower charges than Arlington County.

For jurisdictions with more similar development scenarios such as Falls Church, the proposed charges are in line with their fees with the exception of the 1-inch service. Falls Church revised its rates in 2005.

Washington Suburban Sanitary Commission’s (WSSC) rates for similar construction services are higher than those proposed by Arlington County. WSSC’s rate schedule for installing small services applies only to residential service connections. WSSC typically revises its rates annually.

Staff believes the proposed Water Service Installation Charges for small water services are in line with other jurisdictions. In the case of the 1-inch service installation charge, while there is some discrepancy with some jurisdictions, the proposed charges are based on historical Arlington County expense data and are intended to fully recover the County's costs for installing a new water service. For large services, it is difficult to compare with other local jurisdictions. However, using the CCI and adjusting the current rate structure for inflation the proposed charges are reasonable.

*Meter Installation Charges – Table 2*

<b>Table 2: Meter Installation Charges</b>				
<b>Meter Size (inches)</b>	<b>Current Connection Charge</b>	<b>Proposed Connection Charge</b>	<b>Utilities Ordinance Reference</b>	<b>Year When Current Rate was Established</b>
3/4	NA	\$100.00	To be included with § 26-12	NA
1-1/2	NA	\$300.00	To be included with § 26-12	NA
2	NA	\$600.00	To be included with § 26-12	NA
3	NA	\$1800.00	To be included with § 26-12	NA
4	NA	\$2,000.00	To be included with § 26-12	NA
6	NA	\$2,200.00	To be included with § 26-12	NA
8	NA	\$3,000.00	To be included with § 26-12	NA

The proposed Meter Installation Charges include the materials, equipment and labor costs associated with delivering and installing a water meter in a developer installed service. For smaller services, which convey relatively lower flows, positive displacement meters are used. Larger services that convey a much wider range of flows use compound meters. These compound meters are more complicated and are much larger in size. For example a 3/4-inch meter weighs approximately four pounds, a 3-inch meter weighs approximately 55 pounds, and an 8-inch meter weighs approximately 170 pounds. Consequently the material costs and complexity of the installation are much greater for larger meters. The proposed fees also include remote meter reading equipment which is being installed on 3-inch and larger meters.

To verify the reasonableness of these charges staff compared the proposed fees with other local jurisdictions. As with the Water Service Installation Charges, policies and fees vary slightly with each jurisdiction based on the needs of the community and water distribution system. Table 3 provides Meter Installation fees for neighboring jurisdictions.

<b>Table 3: Comparing Meter Installation Fees with Local Jurisdictions</b>							
	<b>Size of Meter (inches)</b>						
	<b>3/4</b>	<b>1-1/2</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>8</b>
Arlington County (proposed)	100	300	600	1800	2000	2200	3000
DC WASA	340	544	588	1545	1708	1960	2592
Fairfax Water	400	For meters greater than 1-inch, the charge is based on actual cost and includes an allowance for administrative and general overhead.					
Prince William County	275	450	575	NA	>4-inch the meter fee is negotiated		

For smaller meter installations, the County’s fees are either in line with or lower than other jurisdictions. For larger meter installations, it is more difficult to do a comparison. Reviewing DC WASA fees for larger meters, its fees are slightly less than the County’s proposed charges. DC WASA last revised its fees approximately five years ago. Variations in materials may account for the difference in the installation fees.

Staff believes the proposed Meter Installation Charges for small water services are in line with other jurisdictions. In the case of larger meter installations, while there is some discrepancy with DC WASA, the proposed charges are based on material and estimated labor costs and are intended to fully recover the County’s costs for installing a new water meter.

*Water Service Discontinuation Charge – Table 4*

<b>Table 4: Charge for Discontinuing of an Existing Water Service</b>				
<b>Service</b>	<b>Current Charge</b>	<b>Proposed Charge</b>	<b>Utilities Ordinance Reference</b>	<b>Year When Current Rate was Established</b>
Discontinuation of an Existing Water Service	NA	\$500.00	To be included with § 26-12	NA

To physically discontinue a water service, work is required in the street and at the water meter. Every water service has a valve located near the water main that either has access through a valve cover or is buried that allows the County to isolate the water service from the main. To discontinue a service, this valve is closed and the service is discontinued (cut off). This requires the County Water Maintenance Crews to excavate down to the water main. This work is typically in a paved area and is normally five feet deep. The water service is cut and capped immediately downstream of the isolation valve. Once this work is complete, the trench is backfilled and the surface restored. The other end of the public water service is located at the water meter. The meter is removed, the meter box or vault is backfilled and the surface is restored. This fee is based on estimated labor, equipment and material costs.

To determine if this proposed charge is reasonable, other jurisdictions were surveyed. Again as with the other charges discussed above, each jurisdiction has its own community and water system needs. Some jurisdictions such as Fairfax Water Authority and Falls Church do not charge for this service. Fee information for those that do charge to physically discontinue a water service is listed in Table 5.

<b>Table 5: Comparing Discontinuation Charges with Local Jurisdictions</b>		
	<b>Charge</b>	<b>Comment</b>
Arlington County (Proposed)	\$500.00	
DC WASA – 2-inch and smaller	\$310.00	The contractor is responsible for the excavation, backfilling and repaving.
DC WASA – 3-inch and larger	\$610.00	The contractor is responsible for the excavation, backfilling and repaving.
WSSC – Discontinuation is in a County Roadway	\$700.00	This charge does include excavation, backfilling, and repaving.
WSSC – Discontinuation is in a State Roadway	\$1600.00	This charge does include excavation, backfilling, and repaving.

*Relocation of a Meter Box – Table 6*

<b>Table 6: Meter Box Relocation Charge</b>				
<b>Service</b>	<b>Current Charge</b>	<b>Proposed Charge</b>	<b>Utilities Ordinance Reference</b>	<b>Year When Current Rate was Established</b>
Relocating Meter Box for 2-inch and smaller water services (5-ft or less)	NA	\$1000.00	To be included with § 26-12	NA

Many projects in Arlington County involve the redevelopment of a parcel. In some cases the existing water service is relatively new and adequate to serve the parcel and the redevelopment only slightly interferes with the existing water service. For example, a driveway apron may be widened a few feet. Therefore, on water services that are 2-inches and smaller and whose pipe material is flexible copper tubing, County staff is proposing to establish a fee to relocate the water service up to five feet in cases where the staff determines the service is adequate to serve the redevelopment.

To verify the reasonableness of this fee, County staff reviewed County’s current Water Maintenance contract. Again, the proposed charge is in line with the maintenance contract.

*Fire Flow Tests – Table 7*

<b>Table 7: Fire Flow Test Charge</b>				
<b>Service</b>	<b>Current Charge</b>	<b>Proposed Charge</b>	<b>Utilities Ordinance Reference</b>	<b>Year When Current Rate was Established</b>
Fire Flow Test	\$200.00	\$300.00	§ 26-7	1993

The primary reason for these increases is that this charge was last revised fourteen years ago and is being increased in order for the County to fully capture the costs associated with this test. The revision was based on current labor rates and equipment costs. To verify the reasonableness of this charge, it was compared with the current charge adjusted for the CCI. The proposed charge compared well with the index.

*DFU Inspection Charge – Table 8*

<b>Table 8: Drainage Fixture Unit Inspection Charges</b>				
<b>Number of Fixtures</b>	<b>Current Charge</b>	<b>Proposed Charge</b>	<b>Utilities Ordinance Reference</b>	<b>Year When Current Rate was Established</b>
1 to 24	\$75.00	\$175.00	§ 26-7	1993
25+	\$125.00 to \$175.00	\$275.00	§ 26-7	1993

In the past this inspection charge was divided into three tiers based on the number of DFUs in a given structure. Historical data has shown that DFU inspections more appropriately fall into two categories: those structures with less than 24 DFUs and those with 25 or more DFUs. To simplify the fee schedule, County staff is proposing to have two rather than three categories.

This charge was last revised fourteen years ago and is being increased in order for the County to better capture the costs associated with these inspections. The revision is based on current labor rates, minor equipment costs and fourteen years experience performing these inspections.

*Fire Line Installation Charge – Attachment A*

This construction service is rarely utilized in part because of the configuration of large services. A water service runs from the main to water meter or water vault normally located between the property line and the curb and gutter. For large services, once the service pipe is laid behind the curb and gutter, a tee is installed allowing the water to flow to both a fire line and through the water meter. Most new developments that require a fire line typically also need a larger meter. The standard design for large water services eliminates the need for a separate water tap for a fire line. In the event only a fire line is required, the Developer is required to hire a contractor to install the fire line. This contractor can also perform the tap on the County water main while they are excavating in the street. Consequently, County staff recommends removing this fee schedule from the Utilities Ordinance.

**FISCAL IMPACT:** The Utilities Fund is a self-supporting enterprise fund that is fully financed by user fees. If the County Board adopts the proposed fee increases, an estimated additional \$300,000 in Water Connection revenue is projected. This revenue is included in the FY 2009 Utilities Fund budget.

**Attachment A**

**AN ORDINANCE TO AMEND, REENACT, AND RECODIFY CHAPTER 26, ARTICLE I, SECTIONS 26-7 AND 26-12 OF THE ARLINGTON COUNTY CODE RELATING TO WATER/SEWER FEES AND SERVICE CONNECTION CHARGES, EFFECTIVE JULY 1, 2008**

**BE IT ORDAINED** that Chapter 26, Article I of the Arlington County Code is amended, reenacted, and recodified as follows, effective July 1, 2008.

**Chapter 26**

**UTILITIES**

**Article I. In General**

\* \* \*

**§ 26-7. Water/sewer rates and fees.**

- (f) ~~The charges for drainage fixture unit inspections shall be for one (1) to twenty-four (24) fixtures,~~

The charges for drainage fixture unit inspections shall be ~~seventy-five dollars (\$75.00)~~ one hundred seventy five dollars (\$175.00) for one (1) to twenty-four (24) fixtures, ~~one hundred twenty five dollars (\$125.00) for twenty five (25) to forty nine (49) fixtures, and one hundred seventy five dollars (\$175.00) for fifty plus fixtures.~~ two hundred seventy five dollars (\$275.00) for twenty-five-plus fixtures.

- (g) The charge for fire flow tests shall be ~~two~~ three hundred dollars (\$200.00 \$300.00).

**§ 26-12. Service connection and disconnection charges.**

Water Connection Charges

Service Connection Size (inches)	Meter Size (inches)	Connection Charge
1	3/4	<del>\$ 1,600.00</del> <u>\$3,200.00</u>
1 1/2	1 1/2	<del>2,000.00</del> <u>4,600.00</u>
2	2	<del>3,600.00</del> <u>4,800.00</u>
3	3	<del>10,600.00</del> <u>19,800.00</u>
4	4	<del>11,500.00</del> <u>21,200.00</u>
6	6	<del>13,500.00</del> <u>23,200.00</u>
8	8	<del>15,500.00</del> <u>25,300.00</u>

Fire Line Size (inches)	Connection Charge
4	<u>\$2,000.00</u>
6	<u>2,100.00</u>
8	<u>2,500.00</u>
12	<u>3,500.00</u>

Meter Installation Charges

<u>Meter Size (inches)</u>	<u>Installation Charge</u>
<u>3/4</u>	<u>\$100.00</u>
<u>1-1/2</u>	<u>300.00</u>
<u>2</u>	<u>600.00</u>
<u>3</u>	<u>1,800.00</u>
<u>4</u>	<u>2,000.00</u>
<u>6</u>	<u>2,200.00</u>
<u>8</u>	<u>3,000.00</u>

Water Service Discontinuation Charge

The charge to discontinue a public water service shall be \$500.00.

Meter Box Relocation Charge

The charge to relocate a meter box (for services 2-inches and smaller) five feet or less shall be \$1,000.00.

These charges became effective ~~July 1, 1990~~ July 1, 2008.