WESTERN RESOURCE ADVOCATES

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RAFTELIS

A Guide to Designing Conservation-Oriented Water System Development Charges

EXECUTIVE SUMMARY

A growing number of Colorado communities have crafted ways to reduce the water demands of new development by redesigning their water system development charges (SDCs) to incentivize highly water efficient homes and developments. These communities, like many others in the U.S., are challenged by water scarcity coupled with population growth. Most of these conservation-oriented SDC programs are only a few years old, but as substantial water savings have been realized by some, more communities are looking to these methods to help manage future water demands.

SDCs (also referred to as "fees" throughout the document) are one-time charges assessed to new developments to help pay for the infrastructure and water resources capacity needed to support them. These fees are often based on meter size, but they can also be scaled in proportion to the volume of water that each new development is projected to use. For example, instead of one fixed fee applying to all new single-family residential homes, homes with highly water efficient landscapes and interiors would pay a lower fee than a home with a large water-usage profile.

Conservation-oriented SDCs are still a new tool, but one that is a logical extension of more traditional SDC calculation methods. The use of conservation-oriented system development charges is not yet widespread, but adoption in Colorado is increasing as more communities seek ways to reduce future water demands and as communities see the successes achieved by their peers. These newer types of SDCs can recognize water-demand variations within a customer class and provide greater equity among customers, in comparison to traditional methods.

Traditional methods of calculating SDCs (such as meter size and "equivalent residential units" [ERUs]) are each based on measurements of water demands and are typically applied to a broad class of customers. For example, all residential units with the same meter size pay the same fee, or all commercial developments with the same meter size pay the same fee.

By contrast, conservation-oriented SDCs are scaled in proportion to calculated, individualized water demands. The estimates are more accurate, but still involve

assumptions. This method acknowledges that different water demands exist within the same customer class and provides a logical mechanism for incentivizing water efficiency. That is, highly water efficient developments with lower demands are rewarded with a lower fee, while less efficient developments with higher demands are assessed a larger fee.

Conservation-oriented SDCs can be appealing to developers, and several incentive options exist. Regulatory requirements, such as landscape ordinances, are likely the most impactful method of achieving water savings but may not be viable in every community. Lower fees can be a powerful financial incentive for developers to integrate highly water efficient systems into their buildings and landscapes, when the incentives can impact their bottom-line sufficiently. Developers often like having a choice in what amount they pay for a fee and tend to be inclined to choose the lower-cost options. A lower fee up-front—in exchange for highly water efficient interiors and exteriors—will reduce the initial costs to developers and likely increase their profit margin. Typically, savings are not passed on to the buyer, but other benefits to buyers exist, such as lower monthly water bills.

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Importantly, there are other incentive options available to utilities that can be used to encourage water efficiency features. The options include offering a deferred timing of the payment or a guaranteed fee for future development and allowing the developer to submit an alternative to the standard fee schedule/water allocation. Good communication between the utility and the local development community can help to determine which incentive options will work best in a particular community.

Local regulations—for landscapes in particular—may be the most effective way to achieve water savings in a widespread fashion for all new developments. However, in some communities it may be politically infeasible for highly water efficient regulations to be adopted. By contrast, voluntary incentive mechanisms like conservation-oriented SDCs may be more politically viable, but they will likely achieve less water savings than a regulatory mechanism. A water utility may have little influence on the landscape code, as it is rarely (if ever) within the purview of a water utility's decision-making authority. But one of the benefits of an SDC incentive is that it is wholly within the utility's purview to design and manage, and due to its voluntary nature, it may be a more favorable policy to adopt by a city council or other decision-making body.

Conservation-oriented SDCs can benefit utilities and customers by improving equity among customers, better capturing the true cost of development, and substantially reducing water demands in new development. Conservation-oriented SDCs that better connect the fee with expected water demands will result in each new customer paying their "fair share" of the utility's costs to provide the water resources and infrastructure. This is a benefit to both customers and utilities. Customers' monthly water bills will likely be lower and, depending on the landscape installed, they may enjoy a lower-maintenance landscape, too.

More efficient users have lower demands on infrastructure, which can delay and downsize the need for new infrastructure. This can then free up funding for replacement projects, enable communities to use existing facilities more efficiently to serve new development, or meet other near-term objectives.

In addition, reducing water demands from the start of construction—as opposed to installing retrofits later on—is cost effective for utilities and customers. Substantial water savings can be achieved through these nontraditional conservation programs.

Conservation-oriented SDCs typically require more time, expertise, and stakeholder engagement during the design, adoption, and administrative phases. Good water-use data and analysis are necessary to develop more accurate estimates of projected water use in the design phase of an SDC assessment schedule. Good communication with stakeholders and decision-makers is key to building understanding and can be especially important during the design and adoption phase to gather early input, ideas, and concerns. Decision-makers on a utility board or city council also must understand the need and benefits of a new SDC so that they may embrace a new, and likely more complicated, fee design.

To administer the fees properly, staff may need to be educated in reviewing development plans and engineering designs and assigning fees properly. In addition, staff will need to be able to communicate clearly with fee payers about the structure and incentive options. It is recommended that the fee calculation method be made easily accessible to the public along with explaining the process that developers will go through. Both of these steps help to improve understanding and transparency.

Ensuring the longevity of water savings over time is essential and is achievable through conservation-oriented rate structures, administrative solutions, customer education, and tracking the water-use patterns of new developments over time. Conservation-oriented monthly water rates are a natural pairing with conservation-oriented SDCs. They will help to reinforce the value of water and need for water efficiency to the owners/occupants of a building through ongoing and recurring charges. In addition, in the event that water use exceeds the projected demands of a new development, conservation-oriented water rates provide a cost-recovery mechanism for the utility.

Administrative solutions that officially record the water allocation and the fee paid for a new development through forms and plans filed with a land use authority are a strong reinforcement mechanism. This option may be most viable for municipal utilities that can more easily coordinate with the local land use authority.

Customer education is essential if water savings are expected to be sustained over time. Customers need education about the water allocation that was paid for through the SDC and what level of water use is expected of them in the property they occupy; they also need to know what steps to take to maintain that level of water use. Importantly, customers may also need education about properly managing the installed irrigation system and where to get assistance if needed.

Finally, tracking water use over time is essential to providing insight about the performance of a fee design. Basic data about new developments should be recorded by the utility so that they are able to calculate estimated water savings and compare with similar new developments that did not use the incentive. SDC designs may need to be revised based on the results of the data tracking.

Conservation-oriented fees are a powerful option to help reduce water demands in new developments. Not only can they save substantial amounts of water, but they can also improve equity among customers and allow the utility to play a stronger role in shaping the water footprint of the growing population it serves.

The City of Aurora's z-zone program for large, landscaped areas has saved an estimated 170 acre-feet of water per year after being in place for four years. That is enough to supply 350 families per year, a significant savings to the City, and far more easily obtained than if they focused only on landscape retrofit programs.

The City of Fountain, much smaller than Aurora, has saved an estimated cumulative five-year water savings of 80 acre-feet from residential landscape incentives, which is also a significant savings to the City.