

RESOLUTION 2012-099  
OF THE COUNCIL OF THE CITY OF FORT COLLINS  
ADOPTING A WATER SUPPLY AND DEMAND  
MANAGEMENT POLICY

WHEREAS, a Water Supply Policy was adopted by the City Council in December 1988 to help direct the acquisition, development, and management of the City's water supplies since that time; and

WHEREAS, a Water Demand Management Policy was adopted by the City Council in April 1992, which set water use goals and provided for measures to help meet those goals; and

WHEREAS, in 2003, the City Council approved Resolution 2003-104, adopting a Water Supply and Demand Management Policy to provide guidance regarding the future development and use of the City's water supplies; and

WHEREAS, since that time, there have been significant reductions in the City's water use; and

WHEREAS, it is a high priority of the City to provide an adequate, safe and reliable supply of water for our community, while considering the potential effects of climate change on those supplies; and

WHEREAS, managing water use in Fort Collins to reduce impacts to the environments from which the City's supplies come is an important community value; and

WHEREAS, in light of the foregoing, and following discussions with interested citizens, stakeholder groups, the Water Board and City Council, City staff has developed a proposed Fort Collins Water Supply and Demand Management Policy, dated October 2, 2012, a copy of which is attached hereto as Exhibit "A" and incorporated herein by this reference (the "Policy"); and

WHEREAS, the concepts and principles to be incorporated into the Policy and a draft of the Policy were presented to, and discussed with, the City Council at a work session on January 10, 2012, and at the City Council's October 2, 2012, regular meeting; and

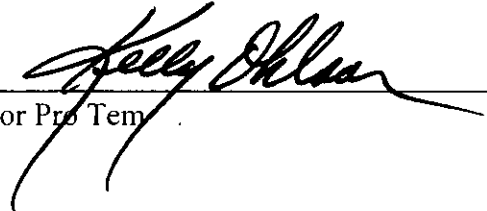
WHEREAS, a draft of the Policy was also presented to, and discussed with, the Water Board at the Board's July 19, 2012, meeting, and the Board's recommendations have been incorporated into the Policy attached hereto; and

WHEREAS, it is the desire of the City Council to formally adopt and approve the Policy.


NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF FORT COLLINS that the City Council hereby adopts the Fort Collins Water Supply and Demand Management Policy, to provide general criteria for City decision making regarding water supply

projects, acquisition of water rights, demand management measures, and other water supply and demand related issues.

Passed and adopted at a regular meeting of the Council of the City of Fort Collins this 20th day of November A.D. 2012.

  
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Mayor Pro Tem

ATTEST:

  
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City Clerk



## City of Fort Collins

### Water Supply and Demand Management Policy

The City of Fort Collins' Water Supply and Demand Management Policy provides a foundational framework for water supply and demand management decisions concerning the City's water supply system. Operational and management actions and decisions by the Water Utility will be consistent with the provisions of this policy.

#### **Objective**

*To provide a sustainable and integrated approach to 1) ensuring an adequate, safe and reliable supply of water for the beneficial use by customers and the community and 2) managing the level of demand and the efficient use of a scarce and valuable resource consistent with the preferences of Water Utility customers and in recognition of the region's semi-arid climate.*

This objective aligns with the 2010 Plan Fort Collins that provides a comprehensive 25-year vision for the future development of Fort Collins. Policy ENV 21.2 of Plan Fort Collins states, "Abide by Water Supply and Demand Management Policy: Provide for an integrated approach to providing a reliable water supply to meet the beneficial needs of customers and the community while promoting the efficient and wise use of water."

This Water Supply and Demand Management Policy calls for a "sustainable and integrated approach" to water demand and water resources management. Sustainability is defined within the context of the triple-bottom-line decision making in Plan Fort Collins as, "To systematically, creatively, and thoughtfully utilize environmental, human, and economic resources to meet our present needs and those of future generations without compromising the ecosystems upon which we depend." Aligning with Plan Fort Collins, the Water Utility will take a leadership role by incorporating the triple-bottom-line in its management of water supply and demand. When this core value is applied to the use and development of our valuable water resources, the Utility will strive to:

- Avoid, minimize or offset impacts to our environment
- Consider the social benefits and impacts of having a reliable and high quality water supply
- Analyze the economic cost to provide such supplies, while also considering the effects it has to our local and regional economies

The Utility will continue to provide a culture of innovation that finds proactive and creative solutions in managing its water supplies and demands, which is a dynamic process that evolves along with changes in data management and technology, legal and political environments, economic development and water innovation, and as the State's population continues to increase. Given these factors, it is important to maintain an up-to-date effective policy that is based on current data. The policy's terms and conditions should be reviewed and updated by 2020, or sooner if desired by the City Council or the Utilities Executive Director.

## 1.0 WATER USE EFFICIENCY AND DEMAND MANAGEMENT

The City views its water use efficiency program as an important proactive response to supply variability and climate change. Elements of the City's conservation program include reducing indoor demand through improved technology, leak reduction and behavior change and reducing outdoor demand through improved irrigation efficiency and reasonable changes in landscaping. The City believes water use efficiency is of vital importance for many reasons, including to:

- Foster a conservation ethic and eliminate waste
- Demonstrate a commitment to sustainability
- Provide water for multiple beneficial purposes
- Reduce the need for capital expansion projects and certain operational costs
- Encourage and promote innovation in water demand management
- Prepare for potential impacts of climate change

### 1.1 Water Use Efficiency Goals for Treated Water Use

The City's 2009 Water Conservation Plan<sup>1</sup> established a goal of reducing the City's treated water use to 140 gallons per capita per day (gpcd)<sup>2</sup> by the year 2020<sup>3</sup>. The City will utilize water use efficiency measures and programs with the aim of reducing its water use to an average of 140 gpcd, subject to 1) continuing study of the water requirements of the City's urban landscaping, 2) impacts on water demand due to changes in land use policies, building codes and housing trends, 3) additional studies on climate change, and 4) changes in the water use goal as may be adjusted by any subsequent water conservation plans. This water use goal is subject to change as discussed above and is intended as a goal that can be met while sustaining reasonable indoor and outdoor values of the City.

The per capita peak daily demand<sup>4</sup> will be reduced or maintained to be no more than 350 gpcd by the year 2020, but may be adjusted by any subsequent water conservation plans.

### 1.2 Water Use Efficiency Program

Policy ENV 21.2 of Plan Fort Collins states, "Conservation measures should be implemented in accordance with the Water Conservation Plan and periodically adjusted to reflect new and effective conservation measures." The City will optimize water use efficiency through the programs and measures specified in its Water Conservation Plan. These programs and measures include educational programs, incentive programs, regulatory measures and operational

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<sup>1</sup> State guidelines are changing the terminology of Water Conservation Plans to Water Use Efficiency Plans, and likewise conservation is being changed to water use efficiency. For purposes of this policy, water use efficiency is referred to as water conservation; however, the terminology may be used interchangeably.

<sup>2</sup> Gallon per capita per day (gpcd) calculations are based on the total treated water produced at the Water Treatment Facility for use by Water Utility customers (minus large contractual customers and other sales or exchange arrangements) divided by the estimated population of the Water Utility's service area.

<sup>3</sup> This goal represents an 8.5% reduction in water use compared to Fort Collins' 2006-2010 average daily water use of 153 gpcd. It represents a 29% reduction in water use compared to Fort Collins' pre-drought (1992-2001) average daily water use of 197 gpcd.

<sup>4</sup> The peak daily demand is 2.5 times the average daily use water conservation goal and is based on historic ratios of average to peak daily use.

measures. Specific measures and programs are outlined in the Water Conservation Plan. The overall effectiveness of these measures and programs will be evaluated on a regular basis and if necessary, modifications will be made to increase effectiveness or to modify the City's water use goal. An annual water conservation report will be prepared to describe the status and results of the various measures and programs. The Water Conservation Plan will be updated at a minimum of every seven years, as currently required by the State of Colorado.

### **1.3 Water Rate Structures**

The City will have stable water rate structures with transparent accountability for all classes of customers. The water rate structures will provide an economic incentive to use water efficiently while also providing sufficient revenue for operational and maintenance purposes. Examples of structures that may be utilized include 1) tiered rates with increasing prices as water use increases, 2) seasonal blocks with higher rates during the irrigation season, and 3) water budget approaches based on appropriate targets for individual customers.

The City will annually review the effectiveness of its water rate structures as part of its financial analyses regarding Water Utility revenue, expenses and rates. Specific studies or changes to the rate structure may be made upon identification of the need to revise it. Any changes to the rate structure will require City Council approval.

### **1.4 Population Growth**

Population growth is an important factor in determining the City's water supply needs, since increases in population generally increase the need for additional supplies. Population growth projections and associated water demand are mostly a function of land use planning, development densities, annexation and other growth related issues that can be affected by City Council decisions. The Water Utility will continue to work closely with the Current Planning Department, which provides population projections that may be effected by changes in City policies related to growth.

## **2.0 WATER SUPPLY RELIABILITY**

The City needs to meet future water demands in an efficient and reliable manner. Policy ENV 21.2 of Plan Fort Collins states, "Water supply reliability criteria will take into consideration potential effects of climate change and other vulnerabilities. Water supplies and related facilities shall be acquired or developed after careful consideration of social, economic and environmental factors." One of the Water Utility's primary objectives is to provide an adequate and reliable supply of water to its customers and other water users. Key principles that need to be considered when addressing water supply for municipal use include:

- Providing water supply system reliability and flexibility
- Considering a broad portfolio of resources that do not overly depend on any one source
- Maintaining a water storage reserve for unforeseen circumstances
- Maintaining water supply infrastructure and system security
- Being a steward of the City's water resources, which includes watershed management
- Collaboration with the City's regional water providers and users

- Maintaining awareness of state, national and worldwide trends and adapting as needed to meet our customer needs
- Promoting education, awareness and a culture of innovation among the Water Utility and others to enable creative responses to future water supply uncertainties

## **2.1 Water Supply Planning Criteria**

An integral component of the City's water supply planning efforts is to maintain computer models that estimate the yield of its existing and future water supplies. The following water supply planning criteria are key parameters used in these models that provide a foundation for planning future supplies.

### **2.1.1 Planning Demand Level**

The reliability of the City's water supply should be maintained to meet an average per capita demand level of 150 gpcd<sup>5,6</sup>. This planning level provides a value that is higher than the water use goal to address uncertainties inherent in water supply planning.

It is important to have a planning number that can be used for development of long-range water supply facilities. Because water supply system infrastructure may take many years to permit and construct, it is desirable to use conservative assumptions to size facilities that may be needed for the long-term. A planning demand level should be larger than the water use goal, primarily because of the uncertainties related to projected water demands, yields from specific water rights, climate change and other unanticipated effects.

### **2.1.2 Drought Criterion**

The reliability and capacity of the City's water supply system should be maintained to meet the planning level demand during at least a 1-in-50 year drought event in the Cache la Poudre River Basin. Water rights should be acquired and facilities (including storage capacity) should be planned and constructed sufficiently ahead of the time to maintain the 1-in-50 year drought criterion, considering the time required to obtain water court decrees and permit and construct diversion, conveyance and/or storage facilities. In using this criterion, the City seeks to provide a balance among water supply reliability, the financial investment necessary to secure such reliability and the environmental impacts associated with water storage and diversions.

### **2.1.3 Storage Reserve Factor**

The City's water supply planning criteria will include a storage reserve factor that equates to 20% of annual demand in storage through a 1-in-50 year drought<sup>7,8</sup>. This factor provides an

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<sup>5</sup> The 150 gpcd value is based upon the normalized 2006-2011 average daily use.

<sup>6</sup> The average per capita demand planning level is used for facility planning purposes. Gallons per capita per day (gpcd) calculations are based on the total treated water produced at the Water Treatment Facility for use by Water Utility customers (minus large contractual customers and other sales or exchange arrangements) divided by the estimated population of the Water Utility's service area. This number is multiplied by population projections developed by the City's Planning Department to calculate future water demands.

<sup>7</sup> For the Water Utility, 20% of annual demand is equivalent to around 3.7 months of average winter demand and about 1.5 months of average July demand.

additional layer of protection intended to address dimensions of risk outside of the other reliability criteria, including emergency situations (i.e. pipeline failure) and droughts that exceed a 1-in-50 year drought.

## **2.2 Climate Change**

Climate change could significantly impact the reliability of the City's supplies and/or the amount of water required to maintain existing landscapes<sup>9</sup>; however, there is a great deal of uncertainty related to current climate change projections along the Colorado Front Range and its impact on municipal demands and water supply systems. The City's planning criteria and assumptions are conservative in part to account for climate change based on the information to date. The City will continue to monitor climate change information and, if necessary, will revise its water supply planning criteria and assumptions to ensure future water supply reliability.

## **2.3 Water Supply Shortage Response Plan**

The City will maintain a plan for responding to situations where there are projected water supply shortages, either because of severe drought conditions (i.e., greater than a 1-in-50 year drought) or because of disruptions in the raw water delivery system. When needed, the Water Supply Shortage Response Plan will be activated based on the projected water supply shortage.

This plan will include measures to temporarily reduce water use through media campaigns, regulations, restrictions, rate adjustments and other measures. The plan may also include provisions to temporarily supplement the supply through interruptible water supply contracts, leases, exchanges and operational measures. Reducing the City's water use during supply short situations may lessen adverse impacts to irrigated agriculture and flows in the Poudre River. The plan will be reviewed periodically and, if necessary, updated to reflect changes in the City's water use and its water supply system.

## **2.4 Additional Supplies and Facilities**

In order to meet projected growth within the Water Utility's service area, as well as maintain system reliability and operational flexibility, the City will need to increase the firm yield of its current water supply system. The following policy elements address ways of meeting these needs.

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<sup>8</sup> In meeting this factor, it is assumed that the City cannot rely on the existing Colorado-Big Thompson Project (CBT) carryover program. This program currently allows each CBT unit holder to carry over up to 20% of its CBT unit ownership in CBT reservoirs for use in the following year. However, this program has varied over the years and there is no guarantee that it will be continued in the future.

<sup>9</sup> Current research indicates that changes in precipitation in this area are uncertain but that temperatures will increase and therefore it is likely that runoff will come earlier and in a shorter amount of time, precipitation may more often come as rain, and higher temperatures will increase outdoor demands and change growing seasons for existing landscapes.

## **2.4.1 Raw Water Requirements for New Development**

The City shall require developers to turn over water rights as approved by the City, or cash in-lieu-of water rights, such that supplies can be made available to meet or exceed the demands of the Water Utility's treated water customers during a 1-in-50 year drought.

Cash collected shall be used to increase the firm yield and long-term reliability of the City's supply system. Potential uses of cash include acquiring additional water rights, entering into water sharing arrangements with agricultural entities, purchasing or developing storage facilities and pursuing other actions toward developing a reliable water supply system: Consideration will be given to providing a diversified system that can withstand the annual variability inherent in both water demands and supplies. The balance between water rights being turned over and cash received by developers should be monitored and adjusted as needed to develop a reliable and effective system.

## **2.4.2 Acquisition and/or Sharing of Agricultural Water Supplies**

The City currently owns and will acquire additional water rights that are decreed only for agricultural use. The City will periodically need to change these water rights from agricultural use to municipal use to meet its water supply needs. The City will change those rights that come from areas upon which the City is growing, or from areas where the irrigation has ceased, when needed. For water rights that were derived from irrigated agricultural lands that remain in viable agricultural areas, the City will refrain from converting agricultural decrees to municipal use as long as other water supply options are available or other factors make it prudent to do so. The City will also work towards water sharing arrangements that provide water for municipal uses when critically needed and that allow for continued agricultural use of water at other times, in a manner that preserves irrigated agricultural lands over the long-term.

## **2.4.3 Facilities**

The City will pursue the acquisition or development of facilities that are needed to manage the City's water rights in an efficient and effective manner and enhance the City's ability to meet demands through at least a 1-in-50 year drought. These facilities may include storage capacity, diversion structures, pipelines or other conveyances, pumping equipment, or other facilities that increase the firm yield of the City's supply system.

Additional storage will be acquired or constructed considering 1) the City's return flow obligations incurred from changes of water rights, 2) the City's need to carryover water from wet years to dry years in order to meet its drought criteria, 3) operational flexibility, redundancy and reliability of the City's water supply system, and 4) potential multiple-use benefits (i.e., environmental flows, recreational uses, etc.). The City will analyze the potential environmental impacts of developing storage along with other associated costs and benefits, and will develop that storage in a manner that avoids, minimizes or offsets the effects to the environment. Storage capacity options include the enlargement of Halligan Reservoir, the development of local gravel pits into storage ponds, the acquisition of storage capacity in new or existing reservoirs, the development of aquifer storage, or some combination of the above.



### **3.0 TREATED AND RAW WATER QUALITY**

Policy ENV 21.1 of Plan Fort Collins states, “Develop and adhere to drinking water quality standards, treatment practices, and procedures that provide the highest level of health protection that can be realistically achieved.” In addition, the City will take an active role in protecting the quality of water in the various watersheds from which the City’s raw water is derived and maintaining the taste and quality of the City’s treated water. This may include mixing of the City’s source waters to maintain high water quality and require collaboration with private, county, state and federal land owners and managers. The acquisition, development, and management of the City’s raw and treated water will be consistent with the City’s Drinking Water Quality Policy and other applicable policies related to watershed protection and water treatment.

### **4.0 USE OF SURPLUS RAW WATER**

The City will use its existing supplies to meet municipal obligations with the following priorities: 1) to meet water demands by the City’s treated water customers, and 2) to meet the City’s raw water needs as well as other City raw water obligations. Raw water needs include use for such purposes as irrigation of City parks, golf courses, cemeteries and other greenbelt areas. Additional raw water obligations include primarily water transfers to other entities because of agreements or exchanges made to manage the water supply system more effectively.

Water not needed for the above purposes is referred to as surplus water and may be made available to others in accordance with decrees and other applicable policies. Since the City plans its water supply system using a 1-in-50 year drought criterion, it typically has significant quantities of surplus raw water in many years. This surplus water may be available on a year-to-year basis or through multi-year arrangements that do not significantly impair the City’s ability to meet municipal demands. The City will continue to rent its surplus supplies at a fair market price that helps offset the cost of owning such supplies and benefits the Water Utility ratepayers.

#### **4.1 Commitment to Other Beneficial Purposes**

Acknowledging that the City’s use of its valuable water resources has impacts to the environment and the region, the City will commit to using its surplus supplies for other beneficial purposes such as supporting irrigated agriculture, supplementing flows in the Poudre River or providing other regional benefits. The City’s surplus supplies come from a variety of sources, each of which has unique characteristics. These sources include CBT water and shares in several irrigation companies. Some sources are more suitable and available than others to meet beneficial purposes. Whether the surplus raw water can be used for these other purposes is dependent upon a number of factors, including the type of water, place of use and other decree limitations. Any potential use of these supplies should consider, and will likely require coordination with, other water users, state agencies and other groups. Some uses of the surplus supplies, such as maintaining an instream flow according to the State’s Instream Flow Program, may require a change of water rights through the water court process. The City will engage in a thorough evaluation of these issues as part of assessing the use of its surplus supplies for these beneficial purposes.

Utilities will evaluate implementing a program to allow voluntary contributions from its ratepayers (i.e., Utility bill “check-off box”) for programs that are designed to support the following purposes: preserving local agriculture, supplementing flows in the Poudre River, or meeting other beneficial purposes that our community may desire.

#### **4.1.1 Agriculture and Open Space**

Policy SW 3.2 of Plan Fort Collins states, “Participate in and follow the Northern Colorado Regional Food System Assessment project and other Larimer County agricultural efforts, and implement their recommendations at a local level, if appropriate.” In addition, Policy LIV 44.1 of Plan Fort Collins states, “Maintain a system of publicly-owned open lands to protect the integrity of wildlife habitat and conservation sites, protect corridors between natural areas, conserve outstanding examples of Fort Collins' diverse natural heritage, and provide a broad range of opportunities for educational, interpretive, and recreational programs to meet community needs.” To the extent that surplus water is available, the City will continue to support the local agricultural economy and help preserve the associated open spaces by renting surplus agricultural water back to irrigators under the respective irrigation companies.

The City will explore long-term rental and sharing arrangements with irrigators<sup>10</sup> in order to support the regional food system, encourage agricultural open space and other benefits provided by irrigated agriculture, as well as benefit the Water Utility ratepayers.

#### **4.1.2 Instream Flows**

Policy ENV 24.5 of Plan Fort Collins states, “Work to quantify and provide adequate instream flows to maintain the ecological functionality, and recreational and scenic values of the Cache la Poudre River through Fort Collins.” Recognizing that its water use depletes natural streamflows, the City will seek innovative opportunities to improve, beyond any associated minimum regulatory requirements, the ecological function of the streams and rivers affected by its diversions. The Water Utility will take a leadership role in working with other City departments, local and regional groups and agencies towards the following objectives in accordance with Colorado water law and the administration of water rights in Colorado: 1) encourage flows in local streams to protect the ecosystem, 2) pursue the operation of its water supplies and facilities in a manner that avoids, minimizes or offsets the effects to the environment while meeting customer demands, and 3) explore projects or measures that would provide flows in streams and water in reservoirs for recreational and aesthetic purposes.

#### **4.1.3 Other Arrangements**

The City will consider and participate in other surplus water supply arrangements with other entities that provide mutual benefits and support the region. These may include other rental agreements, augmentation plans and other cooperative arrangements with regional partners. These types of arrangements should be limited to unique opportunities that are mutually

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<sup>10</sup> The City's largest irrigation company ownership interest is in the North Poudre Irrigation Company, which still has substantial lands in irrigated agricultural production and has a unique mix of native water and CBT water that lends itself to these types of partnership arrangements.

beneficial to the parties and provide significant social, economic or environmental benefits to the region.

## **5.0 REGIONAL COOPERATION**

The City recognizes the importance in maintaining good relationships with regional entities and coordinating efforts to achieve mutual goals. The City also recognizes that growing Colorado municipalities are currently struggling to define a way to meet future water supply needs in a manner that minimizes negative impacts to agricultural economies and river ecosystems. The Water Utility will endeavor to be a leader in demonstrating how water supply can be provided in a manner that respects other interests and provides a culture of innovation.

### **5.1 Working with Other Municipal Providers**

The City will continue to work with the water suppliers throughout the northern Colorado Front Range to assure that adequate supplies are maintained in the region. When benefits are identified, the City will cooperate with area entities in studying, building, sharing capacity and operating water transmission lines, distribution systems and storage reservoirs for greater mutual benefit. The City has common interests and the potential to cooperate with regional entities including the water districts around Fort Collins, the City of Greeley and the Northern Colorado Water Conservancy District, as well as other Colorado water providers. In particular, the City should work closely with water districts that serve Fort Collins residents to encourage similar policies regarding drought protection, conservation and to provide mutual assistance during emergencies.

### **5.2 Working with Local Irrigation Companies**

The City will continue to cooperate with local irrigation companies regarding the use, exchange and transfer of water in the Cache la Poudre River Basin. As a major shareholder in many of the local irrigation companies, it is necessary and desirable that the City work closely with these companies. Much of the water supply available to the City is through the ownership of shares in local irrigation companies.

### **5.3 Working with Others**

City Departments will work together and also cooperate with local, state and federal agencies, civic organizations, environmental groups and other non-governmental organizations when common goals would benefit City residents and the surrounding community. Examples of goals that may involve City water supplies and be worthy of collaborative efforts include support for existing and development of new local food sources, promoting open space, improving river flows and supporting the local economy. Such efforts should identify appropriate entities and sources of revenue for specific goals or projects.