



**DENVER**  
PARKS & RECREATION

# IGA between Denver Water and City and County of Denver

PRESENTED TO INFRASTRUCTURE AND CULTURE COMMITTEE

NOVEMBER 18, 2015

# OVERVIEW

Denver Parks and Denver Water have worked together in the past on a number of agreements that were primarily water conservation focused.

In 2014 we began working on a broader agreement

The IGA covers six major areas of focus:

- Providing a reliable, efficient water source for Wellshire Golf Course
- Converting Harvard Gulch to a reliable water source while saving significant amounts of potable water
- Identifying sites at Golf Courses for Denver Water to pilot future water storage solutions
- Providing for the installation of Phase II of Parks' Central Control Master Plan
- Developing a Water Management Plan for Parks to manage this resource more effectively
- Allowing for Parks' conversion to recycled water in a way that pays for itself while ensuring potable water savings

# HIGH LINE CANAL

Wellshire Golf Course is irrigated with raw water from the High Line Canal, an inefficient water delivery method because of the amount of seepage and evaporation.

The High Line Canal is also not a reliable water delivery system. In 2012 and 2013 deliveries were curtailed due to drought, and in 2015 they were stopped due to diversion structure damage that occurred in a flooding event in Waterton Canyon.

Denver Parks and Denver Water want a more reliable method of supplying water to Wellshire Golf Course for the future.



# WELLSHIRE GOLF COURSE



## Agreement:

- Converts Wellshire Golf Course's water source from High Line Canal raw water to potable water.
- Parks and Denver Water will work together to build out the necessary infrastructure to make the conversion.
- Parks and Denver Water will work together on water conservation and irrigation system efficiency improvements to ensure that Wellshire Parks is using water effectively and efficiently throughout the golf course.



# HARVARD GULCH

Harvard Gulch Complex (Harvard Gulch Park, Harvard Gulch North Park, and Harvard Gulch Golf Course) is a Denver park that currently uses potable water for irrigation.



## **Agreement:**

- More efficient and cost effective to irrigate the Harvard Gulch Complex with raw water from the City Ditch than with potable water.
- Parks and Denver Water will work together to provide the necessary infrastructure to deliver water from the City Ditch to a pond in Harvard Gulch Park.
- Unlike water from the High Line Canal, the City Ditch is highly reliable in times of drought.

# DENVER WATER AQUIFER STORAGE AND RECOVERY

not project to determine if Aquifer Storage and Recovery (ASR) could be a potential storage mechanism for the future to increase water supply by using the Denver Basin aquifer as a reservoir.

ASR is the injection of potable water into a non-potable confined aquifer during wet years and the subsequent pumping of water when needed during dry years.

## Agreement:

City of Denver and Denver Water have agreed to work jointly to evaluate Parks' golf courses to locate suitable ASR project sites in Denver.



# PARKS CENTRAL CONTROL MASTER PLAN

Parks manages over 2,900 acres of irrigated landscape at more than 350 sites, including golf courses.

Wide variety of irrigation systems used throughout the system.

Central Control,” is a centralized irrigation management system that can adjust to changing weather conditions, adjust priorities, and identify leaks from a central location, which can lead to significant reductions in water consumption.

## Investment:

Cost share to implement the installation of the Central Control system in three maintenance districts: Kenyon, Ruby Hill, and Washington Park.

Conversion to Central Control in three phases, beginning with Kenyon. Parks will track results including cost of materials, labor and equipment, staff training, staff time and net water saving.

Pending results of the conversion of Kenyon, the Parties will work to convert Ruby Hill and Washington Park to Central Control.

Water savings from this conversion is estimated to be 126 acre feet, or enough to serve more than 50 households annually.





# PARKS WATER MANAGEMENT PLAN

Parks developed and adopted a Water Conservation Plan in 2003.

## Agreement:

Parks will update plan, including accomplishments and lessons learned, into a comprehensive Water Management Plan.

Parks and Denver Water will form core team that will update the 2003 Water Conservation Plan into the Water Management Plan.

## The Plan will include:

- Amount of water needed for efficient irrigation of each park
- Drought plan
- Enhancement of billing software to ensure accurate reporting
- Water waste resolution process
- Updated Horticulture Renovation program which will guide landscape conversions with the aim of reducing water consumption, and design standards that promote sustainable park systems.

**Denver Parks & Recreation  
Water Conservation Plan  
March 2003**

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# RECYCLED WATER CONVERSIONS

Denver Water provides recycled water to large irrigation and industrial customers.

The rate for recycled water is significantly lower than the rate for potable water, making it a good value when properties are converted, however conversion can require park retrofits.

## Agreement:

Denver Parks and Denver Water to convert 300 acre-feet of potable water use on parks to recycled water between 2017 and 2022.

Denver Water will develop a pilot surcharge program of up to \$300K annually during 2017-2019 to assist with the retrofits.

Denver Parks will repay the funds through a surcharge assessed to the recycled water bill for each park that has been converted to recycled water.

If the Parties determine program is successful, Denver Water will contribute up to \$300K annually for more years, during 2020-2022, under the same repayment mechanism.

Denver Water will conduct soil and tissue sampling, and develop a Reuse Monitoring and Maintenance Strategies Group to address concerns about water quality impacts.



# GENERAL PROVISIONS

Denver Water has agreed to provide water rights engineering advice and legal counsel to Parks.

Parties have agreed to continue to explore opportunities for mutually beneficial arrangements.

Denver Water's supply is dependent upon natural water resources that are variable in quantity of supply from year to year.

Parks agrees to engage in a good faith effort to conserve water delivered under this Agreement in a manner generally consistent with the Board's water conservation plan.

This Agreement will become effective ("Effective Date") upon execution by all required signatories.

The background features a light gray gradient with several faint, overlapping white circles of varying sizes. In the top-left and top-right corners, there are decorative elements resembling curved lines or partial circles. Along the bottom edge, there are several realistic-looking bubbles of different sizes, some with highlights and shadows, giving a sense of depth and movement.

**THANK YOU!**

**QUESTIONS?**