



Memorandum

TO: TRANSPORTATION AND
ENVIRONMENT COMMITTEE

FROM: Kerrie Romanow

**SUBJECT: INTEGRATED WATER
INFRASTRUCTURE PROGRAM**

DATE: November 18, 2020

Approved

Date

11/30/2020

RECOMMENDATION

Accept the status report on the Integrated Water Infrastructure Program.

OUTCOME

Provide an update to the Transportation and Environment (T&E) Committee on the status of current Integrated Water Infrastructure Program.

BACKGROUND

The City strives to provide world-class utilities that improve the environment. Concurrently, there are multiple water-related programs, projects, and environmental challenges that can impact water supplies while also having the potential to provide long-term benefits. These include, but are not limited to, the following:

- Green Stormwater Infrastructure Program
- Climate Smart San José
- Anderson Dam Retrofit
- Climate Change
- Environmental Concerns
- Bay-Delta Plan
- Cost of Water

To develop a comprehensive solution and to align with opportunities that may come available as part of these other programs, the Integrated Water Infrastructure Program (“IWIP”) was established in 2020 by the City’s Environmental Services Department’s Water Resources Division.

ANALYSIS

The objective of the IWIP is to integrate existing water infrastructure to create a cohesive distribution system conveying stormwater, non-potable groundwater, and recycled water in a way to maximize under-utilized assets and increase the non-potable water supply.

Existing Infrastructure and Water Supply Options

Currently, there are multiple forms of non-potable water supply and conveyance opportunities throughout San José. These include:

Non-potable Groundwater Wells

Each water retailer has aging groundwater wells that are no longer used for drinking water purposes but have the potential to be integrated with non-potable water supplies.

Non-potable Groundwater

The upper portion of the groundwater aquifer is not used for drinking water purposes, but readily available and may be potentially used for non-potable uses.

Groundwater Infiltration

Development activities, existing and new businesses, and residents with below-ground infrastructure often experience groundwater infiltration. Typically, this water cannot be used for drinking water but is a viable option for non-potable supplies.

Stormwater & Stormwater Collection Systems

There are approximately 1,100 miles of stormwater pipe and 1,510 stormwater outfalls, this existing infrastructure may be a potential source of non-potable water.

Recycled Water & Recycled Water Distribution System

There is an existing non-potable water distribution system, South Bay Water Recycling (SBWR) that could be used to convey both additional recycled water supplies and other types of non-potable water.

Program Focus

The IWIP is structured to combine efforts and progress of other high priority programs (e.g. the Green Stormwater Infrastructure Plan, Climate Smart San José, and climate change-related water supply insecurities), and re-envision access to local water supplies with cost-effective solutions. While the IWIP could be very broad in scope, to narrow focus, three separate components were considered for evaluation to address water supply challenges, support ongoing goals, and explore opportunities to develop local water supplies. These include the following:

➤ **Stormwater Treatment**

- Explore dry-weather stormwater treatment options and new treatment systems to integrate with existing recycled water infrastructure for reuse opportunities.
- Evaluate utilizing the stormwater system as conveyance for non-potable water during summer months.

- Primarily support alternatives in parallel with the Green Stormwater Infrastructure Plan, Climate Smart San José and water supply restrictions related to climate change and environmental concerns.
 - Pilot technology that can be used to support onsite use for local businesses with groundwater infiltration, stormwater management, and non-potable groundwater.
- **Non-Potable Groundwater Supplies**
- Groundwater wells, unable to be used for drinking water purposes without costly advanced treatment, may potentially be integrated with non-potable water supplies.
 - Utilize existing groundwater well infrastructure to augment non-potable supplies and take advantage of a local, unused resource.
 - Primarily support cost efficient alternatives, in parallel with Climate Smart San José, recycled water expansion, the Anderson Dam Retrofit Project, and water supply restrictions related to climate change and environmental concerns.
- **Recycled Water / Non-potable Water Distribution Facilities**
- Recycled water continues to receive interest from local water retailers and wholesalers, and the development and business community. The IWIP will evaluate options for cost-efficient infrastructure investments that support additional recycled water and other non-potable water supply opportunities.
 - Evaluate different methodologies for adding and conveying non-potable water supplies through the existing recycled water system. Methodologies will consider benefits for all participating agencies, including ownership of any infrastructure investments.
 - Primarily support alternatives in parallel with Climate Smart San José, recycled water expansion, the Anderson Dam Retrofit Project, and water supply restrictions related to climate change and environmental concerns.

South Bay Water Recycling (SBWR)

In 1996, the San José – Santa Clara Regional Wastewater Facility (RWF) embarked on a \$250M investment to construct SBWR, a regional recycled water distribution system, serving the Cities of San José, Santa Clara, and Milpitas. While Program Focus #1 & #2 explore alternate types of non-potable water supply, the cost of conveying that water to interested businesses and customers has long been the limiting factor. SBWR, as an established and extensive non-potable distribution system, is uniquely positioned to convey alternate types of water supply, and this program would not be possible without the RWF's decades long effort and investment.

Development Focus

The IWIP carefully considers the impact to fiscal resources and the local business community. Developers and local businesses continue to express interest in additional non-potable water supplies, including the possibility of creating onsite recycled water / reuse systems at the development level. The IWIP will evaluate new technologies to assist developers and City staff to better understand these projects and the benefit to local water supplies.

Funding Strategy

The addition of new, largescale water supply infrastructure requires funding, which typically coincides with water rate increases. The integration of existing infrastructure, to harness stormwater and other non-potable water supplies, will help to minimize capital investments. The estimated cost to implement the pilot project(s) and expand non-potable water supplies is \$2,000,000 over a five-year period, funded by voluntary contributions provided from water retailers and other partner agencies. The IWIP will include the development of new agreements with participating agencies. Implementation of the IWIP has been collaborated with San José Municipal Water System and the City of Santa Clara. Discussions with other water retailers and partner agencies are anticipated to occur in Spring 2021.

CONCLUSION

The IWIP will strive to integrate existing water infrastructure, including stormwater, non-potable groundwater, and recycled water to maximize assets and increase the non-potable water supply.

EVALUATION AND FOLLOW-UP

Staff will continue to work with internal and external staff on the Integrated Water Infrastructure Program and may return to the Transportation and Environmental Committee periodically with additional updates.

CLIMATE SMART SAN JOSE

The recommendation in this memorandum aligns with one or more Climate Smart San José energy, water, or mobility goals.

PUBLIC OUTREACH/INTEREST

This memorandum will be posted on the City's website for the December 07, 2020 Transportation and Environmental Committee Agenda.

COORDINATION

This project has been coordinated with the City Attorney's Office and Manager's Budget Office.

COMMISSION RECOMMENDATION/INPUT

No commission recommendation or input is associated with this action.

CEQA

Not a project, File No. PP10-069

/s/
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For questions please contact Jeff Provenzano, Deputy Director, at (408) 277-3671.