

# Francis Street Storm Drain and Ely Basin Flood Control and Aquifer Recharge Project

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## Lead Agency:

Agency: City of Ontario

Project Director: Nabil Kassih

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## General Project Information:

Name: Francis Street Storm Drain and Ely Basin Flood Control and Aquifer Recharge Project

Description: The proposed project includes conveyance facilities for stormwater together with basin improvements. Each is discussed in detail in the following paragraphs:

### Conveyance Facilities

Conveyance facilities will be constructed along Francis Street from Campus Avenue to the West Cucamonga Channel. The existing West Cucamonga Channel will convey runoff, currently lost to the region, to the Ely Basins. The system will include pipes ranging (from 18" to 132" in diameter), manholes, catch basins, and diversion structures. The alignments will only occupy public rights-of-way. The alignments do not conflict with any notable historic or major infrastructure improvements.

### Basin Improvements

The three Ely Basins are located on the north side of Philadelphia Street between South Walker Avenue and South Carlos Avenue. The Basins, in their current condition, consist of three separate basins approximately 1,200 feet long by 525 feet high by 30 feet deep. The basins are connected by shallow box tunnels with two 30-inch diameter low flow pipe connections with manually operated sluice gate valves. The concrete spillway structure is located in the southeast corner of the basins and directs flows back into the West Cucamonga Channel. The proposed project will further excavate the basins allowing for additional recharge capacity, capture and convey greater quantities of runoff to the basins, and will take advantage of the existing inlet and outlet facilities. With the proposed basin improvements, the basins will increase in storage volume by approximately 310 acre-feet.

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**Goals/Objectives:** The City's goals and objectives for the project are to improve flood protection and to enhance water conservation and water quality through groundwater recharge.

The project is designed to provide 100-year flood protection. The existing regional basin facilities, known as the Ely Basins, are ideal for additional excavation for aquifer recharge given their large surface area, relatively shallow existing depth (30 feet), and existence of adequate inlet and outlet facilities. The volume of the existing Ely Basins will be increased by 310 acre-feet to effectively recharge greater quantities of runoff during storm events.

Conveyance facilities will capture runoff from a tributary area of 770 acres and deliver it to the basins for recharge. The project will recharge quality water that will be additionally treated by natural filtration.

**Need:** The purpose of the project is to improve flood protection, and enhance water conservation and quality. The need for the project is well documented. Flooding along Francis Street has occurred during moderate flood events. Automobiles have been photographed in flood waters greater than 2 feet in depth. These conditions clearly create a risk to public safety. Rather than continuing to allow this valuable resource to be simply conveyed further downstream, the City has incorporated improvements to the Ely Basins to conserve these resources for the benefit of the region.

The Facilities will collect and/or convey flows to the existing basins, wherein this flow will be recharged, assisting with regional water management.

**IRWM Goals:** The project meets IRWM goals and objectives by providing a additional water supply through rainwater management with recharge, promoting sustainable water solutions by partnering with IEUA and SBCFCD to construct and maintain the project, providing economically effective solutions by partnering with IEUA to use their existing regional basin, providing City project funds, improving regional integration and coordination by engaging stakeholders, and maintains quality of life through enhanced flood protection.

## IRWM Type

Round 2 Funding

Prop 1 E Funding

OWOW Plan

**Project Type:** Construction

**Subregional Plan:** Yes

**Plan Name:** Chino Basin Water Master's Recharge Master Plan and, through this process, SAWPA's Integrated Regional Water Management Plan.

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Requesting assistance for implementing sustainable water rates: No

Meeting SBx7-7 20% by 2020 efficiency goal : No

Latitude: 34.04122 Longitude: -117.61988

**Project Location:** The Francis Street Storm Drain and Ely Basin Flood Control and Aquifer Recharge Project is located south of Ontario Airport, north of Highway 60, east of Grove Avenue, and west of Archibald Avenue. More specifically, the Ely basin facilities run parallel along the north side of Philadelphia Street, between South Walker Avenue and South Carlos Avenue.

## Project Benefits:

Benefits	Applicable
Water supply reliability, conservation and use efficiency	Yes
Stormwater capture, storage, cleanup, treatment and management	Yes
Removal of invasive species; wetlands creation or enhancement; acquisition, protection and restoration of open space	No
Non-point source pollution reduction, management, monitoring	Yes
Groundwater recharge and management	Yes
Contaminant and salt removal, reclamation, desalting and conveyance to users	No
Water banking, exchange, reclamation and improvement of water quality	No
Planning and implementation of multipurpose flood management programs	Yes
Watershed protection and management	Yes
Drinking water treatment and distribution	No
Ecosystem and fisheries restoration and protection	No

## Where Benefits Accrue:

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Jurisdiction: Multiple Communities

Explanation: The project will benefit Chino Basin Groundwater Aquifer. The basin serves numerous communities including, but not limited to, City of Ontario, City of Chino, and County of San Bernardino.

Subwatershed /Basin: Single Subwatershed

Explanation: The project will benefit the Chino Basin groundwater aquifer by capturing and recharging water that is currently lost to the region. The Chino Basin is a subwatershed to the Santa Ana Region.

Synergies: The City has assembled project partners that are regional; IEUA and SBCFCD. Further, the City and its partners are actively engaging in discussions to assist with development of basin implementation projects including the Francis Street Storm Drain and Ely Basin Flood Control and Aquifer Recharge Project. Further, the City, as part of this application, is requesting that SAWPA include the project in the regional plan. As presented above, the project clearly meets multiple watershed goals and objectives and enhances water resources.

IEUA currently recharges 300 acre-feet per year at the Ely Basins and have planned to increase recharge at the site according to the Chino Basin Water Master's Recharge Master Plan. The proposed project will implement that plan for additional recharge through the collaboration of the project partners.

## Benefits to Disadvantaged Communities (DAC) and Native Tribal Communities (NATC)

100% DAC: No                      Portion DAC: Yes                      DAC %: 100

100% NATC: No                      Portion NATC: No                      NATC %: 0

### Describe DAC and NATC Benefits:

The proposed project doesn't "directly address a critical water supply or water quality need of a DAC"; however, the entire 770 acres of the projects watershed in within a DAC area.

### Environmental Justice:

Land uses in the drainage tributary are primarily small business and industrial users. Small businesses are severely impacted by flooding in the area. The project will assist in mitigating the disproportionate burden placed on these businesses. With implementation of the City's project flood protection will be enhanced for the benefit of these communities.

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## Project Partners:

Agency Name	Contact	Phone	Email	Collab Planning	Direct Funding	In-Kind Service	Co-Manager
County of San Bernardino	Kevin Blakeslee	909-387-7918	kblakeslee@dpw.sbcounty.gov	Yes	No	Yes	No
Inland Empire Utilities Agency	Tom Love	909-993-1600	TLove@ieua.org	Yes	No	Yes	Yes

## Project Funding:

Category	Amount	Percent
Total Project Cost	\$12,700,000.00	100
Requested Round 2 Funding	\$1,000,000.00	8
Match Contribution	\$11,700,000.00	92
Local Contribution	\$11,700,000.00	92
Federal Contribution	\$0.00	0
In-Kind Contribution	\$0.00	0
Other	\$0.00	0
SRF Loan	\$0.00	999

Annual O&M Costs: \$5,000.00

Funding Secured: Yes

**Explain:** The City already has \$1,800,000 set aside for design of the project as listed in the City's 2012-2013 CIP. The City intends to budget another \$4,550,000 in the '13-'14 CIP. Additionally, the City will pursue funding through DWR's Proposition 1E Stormwater Flood Management Grant Program the final \$5,350,000.

O&M Funding Secured: Yes

**Explain:** IEUA is already operating and maintaining the basin. The City has available funding for operation and maintenance of the storm drain pipeline as part of its maintenance budget.

## Project Criteria:

Criteria	Metric	Description
Stormwater Capture and Storage	622 AFY	NA
Non-Point Source Reduction	0.6 mgd treated	NA

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Natural hydrology restoration and connectivity	NA	This project will provide an additional flood protection to 770 acres of area subject to flooding. The project will mitigate flooding, including protection of a vital transportation corridor currently subject to regular flooding. Historically, the project areas and their tributaries were alluvial fans that effectively recharged runoff. With urbanization, runoff exported from the watershed increased exponentially. The proposed project will install approximately 8,500 linear feet of storm drain and basin facilities designed to convey and retain 100-year event flows. It is anticipated that all runoff within the drainage tributary will be conveyed and recharged at the basins effectively converting rainfall to a resource and restores the area closer to the natural hydrology prior to urbanization.
LID	NA	The project will preserve existing open space by utilizing existing flood control and aquifer recharge basin. By conveying stormwater to the basin and by recharging it, other areas that are not resource efficient land uses will be captured at the basin. The project mitigates the land uses for approximately 770 acres by capturing and recharging runoff.
Greenhouse Gas	900 metric tons CO2e/yr	The project provides for reduction in greenhouse gas emissions through development of local water supplies that eliminates the need for imported water of the same quantity. The project conserves local water reducing dependence on imported water in the amount of approximately 622 AFY. By avoiding delivery through the state's system, a significant reduction in greenhouse gas emissions is attained. According to the California Air Resource Control Board, the energy required to deliver SWP water to Southern California is 3,519 kW/hrs per acre-foot. Using the recommended unit amount of 0.0004 kWh to tons of CO2, GHG emissions reduction of approximately 900 metric tons CO2e/year for the project will be achieved.

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Climate Change Adaptation	NA	<p>The project provides for significant adaptation to climate change through the source substitution. It is well documented that State Water Project reliability is subject to hydrology. It is anticipated that these supplies will continue to be strained due to greater overall state demands and environmental conditions in the Delta.</p> <p>Additionally, this project increases recharge capacity within the Watershed allowing for additional stormwater being captured and recharged. The additional capacity that the project adds to the Ely Basins is vital for capturing and recharging the runoff to the greatest extent possible.</p>
Impacts to Natural Hydrology	Positive	<p>Urbanization has led to increased runoff and has negatively impacted the natural hydrologic cycle. The proposed project returns stormwater, which is currently being lost to the Santa Ana River, to the region for use in enhancing groundwater basin recharge, thereby enhancing local water supply sources. The project will mitigate the urbanization through capture and recharge of stormwater locally. Additionally, the increased water supplies will improve basin management. Another project benefit includes reducing surface pollutant transport to the receiving waters by capture and proper disposal of urban pollution.</p>

## Project Status:

Project Status: Final design (100%) completed

Est. Complete Date: 06/20/2014      Est. Operational Life (years): 50

Agency Constructed Similar Projects : Yes

CEQA Status: In Progress      Date: 08/16/2013

NEPA Status: Not Applicable      Date: NA

## Project Attachments:

Type	FileName
Partners	2281_Ontario Support Letter_IEUA.pdf
Partners	2281_Ontario Support Letter_SBCFCD.pdf

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Funding	2281_12-13 Ontario CIP Budget.pdf
Status	2281_Francis-Ely Schedule_10-01-12.pdf

Project Complete: No

Project Active: Yes