

ATTACHMENT 4. PROJECT DESCRIPTION

4.1 DESCRIPTION OF PROPOSED PROJECT

Two of the most important groundwater basins in Southern California are the Central Basin and the West Coast Basin (CBWCB), which are located in the southern portion of Los Angeles County (see **Figure 4.1** below). Groundwater in the CBWCB meets approximately a third of the overall water supply needs of nearly 4 million residents and businesses in the 43 cities overlying the basins. Over 240,000 acre-feet per year (afy) are pumped from the basins for municipal and industrial use. It is critical for WRD to properly manage this groundwater resource to ensure its future availability.

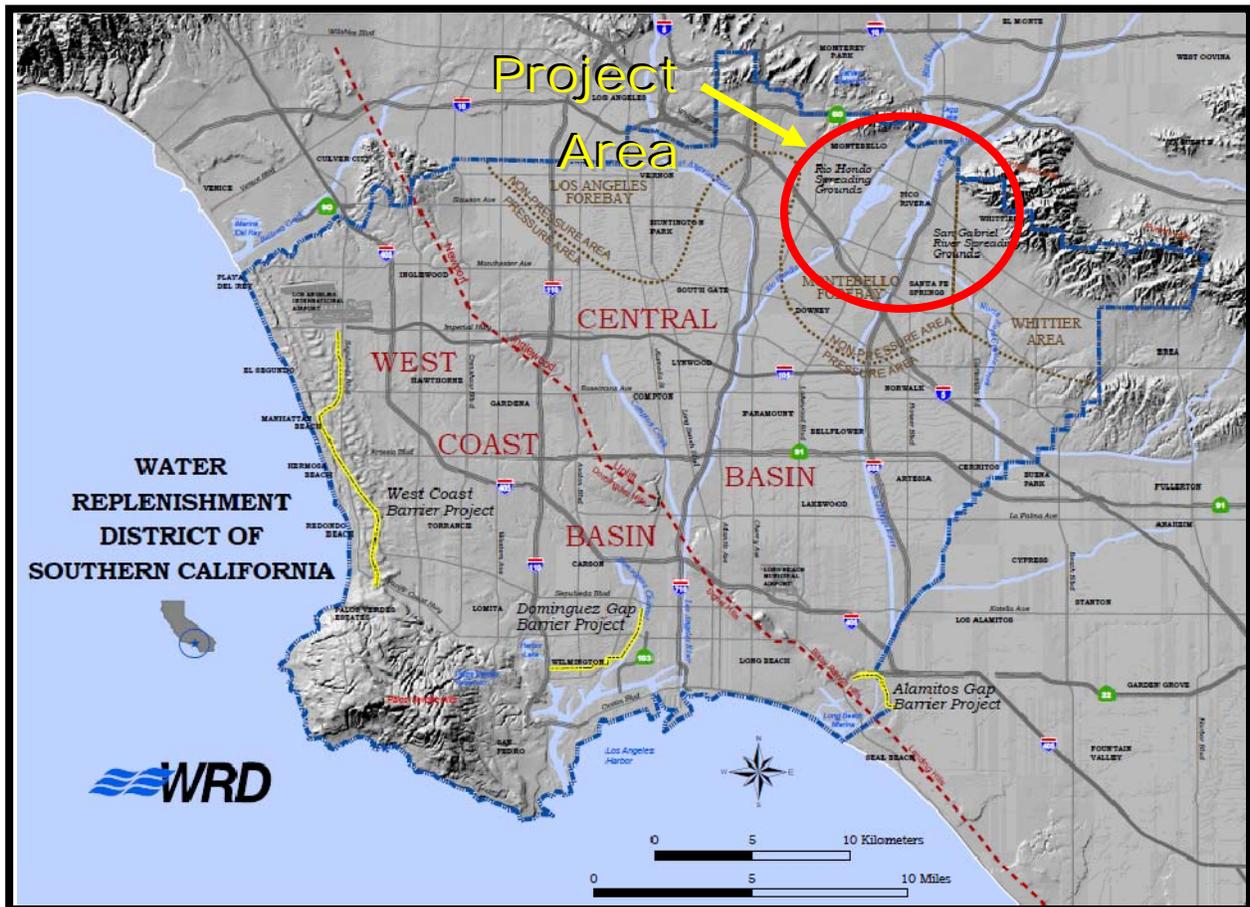


Figure 4.1 – Map of Project Area (Montebello Forebay of Central Basin)

Source: WRD

The Central Basin covers approximately 270 square miles and is divided into four sections: the Los Angeles Forebay, the Montebello Forebay, the Whittier Area, and the Pressure Area (California Department of Water Resources, 1961). The two forebays represent areas of unconfined aquifers (water table aquifers) that allow percolation of surface water down into the deeper aquifers to replenish the basins.

The focus of this study is the Montebello Forebay Spreading Grounds (MFSG), which is the principle groundwater recharge area for the entire CWCB. These spreading grounds account for nearly half of the total groundwater replenishment in the CWCB.

The MFSG consists of two facilities in the northeast portion of the Central Basin, the Rio Hondo Coastal Spreading Grounds (RHSG) and San Gabriel Coastal Spreading Grounds (SGSG). They are located downstream of the Whittier Narrows Dam adjacent to the Rio Hondo and San



Gabriel river channels, respectively. The RHSG consists of off channel spreading grounds, while the SGSG consists of both off-channel grounds and the river channel itself. The Los Angeles County Flood Control District (LACFCD) owns and operates the MFSG for storm water conservation and flood control. Since the late 1930s, they have been recharging the groundwater basins with storm water runoff. But because storm water amounts are insufficient for the total replenishment needs of the CWCB, imported water was added in the 1950s and recycled water in the 1960s to supplement this natural source.

LACFCD has an extensive program of maintaining and grooming the spreading grounds to maximize groundwater recharge. During major storm events, the County works around the clock to ensure that as much runoff as possible is captured by diverting the flows to the various sub-basins instead of allowing the water to be lost to the ocean. During the times when the spreading grounds are not filled with storm water, WRD purchases imported and recycled water for artificial replenishment. Currently, about 40% of the replenishment water is storm water, 40% is recycled water, and 20% is imported water. But the Metropolitan Water District of Southern California (MWD) classifies the replenishment water it sells as interruptible water, and can shut it off any time for any reason.

As the cost of MWD water has increased and its reliability has decreased, the District and other basin stakeholders have focused on enhanced utilization of locally available water sources.

In 2001, WRD and LACFCD completed the Montebello Forebay Recharge Optimization Study (MFROS). The overall goal of this study was to identify opportunities to optimize groundwater recharge in the Montebello Forebay with emphasis of maximizing the conservation of stormwater runoff. As part of this study, a detailed hydrogeologic characterization and numerical modeling of the Montebello Forebay was performed.

The groundwater modeling performed as part of the MFROS study indicated that additional groundwater extraction in the Montebello Forebay was the most feasible method of increasing the local water conserved in the MFSG. The study found that depending on the level of additional pumping, between 2,000 and 29,000 acre-feet per year of additional local water could be captured in the MFSG.

Since completion of the 2001 MFROS, several capital and operational improvements have been made that have allowed for LACFCD's conservation of additional local water. Among these improvements are:

- Construction of new rubber dams in the San Gabriel River.
- Increased conservation pool behind Whittier Narrows Dam.
- Construction of new interconnection pipeline between the Rio Hondo and San Gabriel River Spreading Grounds.
- Other LACFCD operational improvements.

As a result of these improvements, the need for an update to the 2001 study was identified. This updated study, known as the Montebello Forebay Recharge Enhancement Study (MFRES), is the subject of this grant application.

The MFRES study will build off of the findings and recommendations of the 2001 study and update the model developed as part of that study to reflect current MFSG operating conditions.

The primary task associated with this study is a full review of existing documents related to MFSG operations and a summary of capital and operational improvements that have been made since 2000. Based on this updated information, the model developed as part of the 2000 MFROS study will be updated and calibrated to reflect current operating conditions. Upon completion of the model update, a series of alternative groundwater extraction and replenishment scenarios will be developed and analyzed to assess the ability of the MFSG to conserve additional locally available water.

4.2 PROJECT GOALS AND OBJECTIVES

The goal of the MFRES is to quantify the additional stormwater and recycled water that can be conserved in the MFSG as a result of additional groundwater extraction in the Montebello Forebay. The objectives of the study are to:

1. Update information developed as part of 2001 MFROS study to reflect current MFSG operating conditions.
2. Review and refine the groundwater flow system model in the Montebello Forebay.
3. Identify and quantify sources of local water supplies and associated constraints to their use as replenishment supply for MFSG.

4.3 SUPPORT OF GWMP GOALS AND OBJECTIVES

The Study supports the goals and objectives described in the 2003 Strategic Plan, a summary of which is provided in **Attachment 3**. Specifically, this Study relates to the second goal, which is to "Provide Basin Replenishment."

The Study will assist the District in by assessing the capability of the MFSG to conserve additional locally available water. This local water, consisting of recycled water and stormwater, is much less expensive than imported water and generally more reliable. Thus, this Study supports two of the objectives of the District’s goal to provide basin replenishment.

1. **Reduce Replenishment and Barrier Water Costs:** Additional local water conserved at the MFSG will directly offset required imported water purchases. For comparison purposes, imported water currently costs WRD \$681 per acre-foot. Captured local stormwater is available at no cost, while recycled water is generally less than half the cost of imported water.
2. **Ensure Available Water Sources for Purpose of Replenishment Groundwater Supply:** Increased reliance on local water supplies, such as recycled water and stormwater, reduces WRD’s demand for imported water from northern California or the Colorado River. The reliability of this imported water has decreased in recent years while its cost has steadily increased.

4.4 PUBLIC OUTREACH AND COMMUNITY SUPPORT FOR THE PROPOSED PROJECT

WRD’s External Affairs Department (Department) supports WRD’s mission to provide, protect, and preserve high-quality groundwater for the benefit of the residents and businesses in the Central Basin and West Coast Basins. The Department is responsible for developing and promoting relationships with legislative, business, environmental and community interests. To accomplish this goal, the Department maintains a strategic approach to governmental affairs, media relations, and community outreach. The Department also provides a framework for implementing targeted strategies and actions to develop, sustain and mobilize support from key stakeholders for WRD projects and programs.

4.4.1 PUBLIC OUTREACH

WRD has an established process for informing groundwater users, stakeholders, and the general public about the proposed Montebello Forebay Recharge Enhancement Study. WRD currently has a standing Water Resources Committee which meets monthly to discuss water quality issues within the basins where the proposed Study has been discussed. Agendas and minutes for these meetings are posted on the WRD’s website 72 hours prior to the meeting and can be found at the following weblink: <http://www.wrd.org/board/water-board-water-resources.php>.

Additionally, hard copies of the agendas are mailed to basin stakeholders and members of the general public upon request.

The proposed Study was discussed at the following meetings:

June 6, 2012	WRD Water Resource Committee Meeting
June 15, 2012	WRD Board of Directors Meeting
July 11, 2012	WRD Water Resources Committee Meeting

At each of the above-referenced meetings, there was an opportunity for public comment. The agenda and minutes from each of these meetings are provided in **Appendix A**. There was no opposition voiced against this Study at any of the public meetings at which it has been discussed and no letters of opposition were received.

In addition to public outreach activities associated with specific programs and projects, such as the proposed Project, WRD has general outreach programs to educate the public and stakeholders on groundwater issues. Included in these programs are:

- Educational Partnership
- Groundwater Tour Program
- Speakers Bureau
- Legislative Briefings

WRD prepares and issues a Newsletter (“The Source”) that is distributed to 100,000 households, which includes up-to-date information on District programs, projects and items of interest to consumers. The Newsletter is also posted on WRD’s website at the following link: <http://www.wrd.org/news/water-replenishment-source-newsletter.php>.

Each year, WRD prepares and distributes to the water purveyors in the Central Basin and West Coast Basin (“CBWCB”) an Engineering and Survey Report and a Regional Groundwater Monitoring Report. The Engineering and Survey Report documents groundwater conditions in the the past, current, and ensuing year and contains information on groundwater production, annual and accumulated overdraft, water levels, quantity, source, and cost of replenishment water, and a discussion of necessary projects and programs to protect and preserve the groundwater resources of the basins. The Regional Groundwater Monitoring Report presents the most comprehensive information to date regarding groundwater levels and water quality throughout the CBWCB, based on data collected from a network of nearly 300 monitoring wells at over 50 locations throughout the CBWCB. Both technical reports are posted on WRD’s website at the following link: <http://www.wrd.org/engineering/groundwater-engineering-reports.php>.

Additionally, WRD prepares and issues Technical Bulletins to water purveyors in the CBWCB. The purpose of these documents are to provide detailed technical information regarding groundwater and groundwater issues, such as WRD’s Safe Drinking Water Program, groundwater contamination prevention and cleanup, water quality standards, hydrogeological techniques and equipment, etc. These Technical Bulletins can be downloaded from WRD’s website at the following link: <http://www.wrd.org/engineering/drinking-water-documents.php>.

WRD employs five full time External Affairs staff to provide support for public outreach programs for projects, such as this proposed Project.

4.5 FUNDING MECHANISM OF THE PROJECT AFTER GRANT FUNDS ARE EXPENDED

Based on the findings of this Study, WRD will evaluate opportunities, in partnership with basin stakeholders, to convey any new water extracted from the Montebello Forebay to areas of the lower Central Basin. Funding for this evaluation will be provided through WRD’s replenishment assessment or basin stakeholders who will use the extracted water.

4.6 INFORMATION DISSEMINATION

The information generated from the Study will be readily disseminated to DWR and the public. The data and findings will be packaged with the public in mind so Study products will be complete, user friendly, and free of charge.

The Study will be submitted to stakeholders and DWR and available in electronic format. Information obtained from this Study will be made available for download from WRD’s publicly accessible website

and notification of availability will also be included in bill inserts to basin water rights holders. In addition, WRD's Water Resources Committee will receive periodic Project updates at regular meetings where written and oral staff reports are given. These meetings are open to the public and the staff reports and meeting minutes are also available online.