California WATER COMMISSION

Water Storage Investment Program Concept Paper Form

Please complete the questions below and return your completed concept paper by email to cwc@water.ca.gov by 5:00 p.m. on March 31, 2016. Completed concept papers should not exceed four pages.

Contact Information

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Agency/Organization Name: Inland Empire Utilities Agency (IEUA), on behalf of Chino Basin groundwater producing parties	
Agency Type (select one):	☒ Public Agency ☐ Nonprofit Organization ☐ Public Utility ☐ Tribe ☐ Mutual Water Company ☐ Local Joint Powers Authority ☐ Other:

Project Information

Project Name: Chino Basin Groundwater Storage and Recovery Program	
Project Type:	☐ CALFED Surface Storage ☒ Groundwater Storage ☒ Groundwater Contamination Prevention or Remediation ☒ Conjunctive Use ☐ Reservoir Reoperation ☐ Local Surface Storage ☐ Regional Surface Storage ☐Other:
Estimated Project Cost: $294,600,000	
Estimated WSIP Funding Request: $147,300,000	

Please describe your project, including location, water source, facilities, and operations:

The Chino Basin, one of the largest groundwater basins in Southern California, is located in San Bernardino, Los Angeles, and Riverside Counties. The basin contains about 5,700,000 acre-feet (AF) of water in storage, and has an unused storage capacity of over 1,000,000 AF. The basin has been sustainably managed for nearly 40 years under the 1978 stipulated Chino Basin Judgment and overseen by the Chino Basin Watermaster process and the continuing jurisdiction of the California Superior Court.

IEUA and the Chino Basin's major groundwater producing parties, comprised of local public water providers, have invested hundreds of millions of ratepayer and state taxpayer dollars to implement an Optimum Basin Management Program and build local infrastructure which allows for maximum beneficial use of local groundwater, surface water, and recycled water resources. These investments include the development of over 400,000 AFY of groundwater production capacity (including 40,000 AFY of court-mandated groundwater desalination), over 165,000 AFY of imported surface water treatment capacity, over 135,000 AFY of groundwater recharge capacity, and over 63,000 AFY of available recycled water supply. Due to these investments, Chino Basin water providers have been able to significantly reduce reliance on imported water, especially during dry years, and have saved nearly 400,000 AF of groundwater held in local storage accounts which can be safely accessed during periods of extended drought or emergencies.

Chino Basin parties seek to build on this success through full utilization of available basin storage to assist the state and region in meeting water supply, quality, and environmental goals. The Judgment and subsequent party agreements recognize the value of the basin's unused groundwater storage capacity and are written to facilitate the creation of storage and recovery programs, subject to Watermaster control and regulation, for public benefit. The Chino Basin parties have also self-imposed a limit to their combined supplemental storage account levels to ensure sufficient space for larger storage programs.

The following regional planning efforts have identified projects that would be required for the successful development and full utilization of the remaining Chino Basin storage capacity for public beneficial use:

- **Recharge Master Plan Update (RMPU):** In 2013, IEUA and the Chino Basin parties adopted and are currently implementing an RMPU amendment and associated funding agreements to create 12,600 AFY of additional storm water, recycled water, and imported surface water recharge by developing nine groundwater recharge projects at a total estimated cost of $41,000,000.

- **Integrated Resource Plan (IRP):** In 2015, IEUA initiated a collaborative process to develop a comprehensive regional IRP for meeting long-term water supply needs under projected climate conditions. The IRP Phase 1 report identifies a portfolio of projects, including increased conjunctive use of imported water and the purchase of external recycled water supplies, which would dramatically increase the amount of water stored in the Chino Basin and yield an estimated 195,000 AFY of additional supply at a cost of $152,400,000.

- **Santa Ana Regional Conservation and Conjunctive Use Program (SARCCUP):** In 2015, the five regional agencies which comprise the Santa Ana Watershed Project Authority entered into an agreement to develop a cross-boundary, watershed-wide conjunctive use program to increase groundwater storage during wet years and increase dry year extraction and water exchanges across the Santa Ana River Watershed. Existing and future Chino Basin facilities will play a key role in the successful implementation of SARCCUP. The basin represents over half of the proposed 180,000 AF of watershed-wide storage developed through the program's initial stage. Chino Basin projects required to implement SARCCUP include the extension of a potable water pipeline from the San Bernardino Basin Area to the Chino Basin, additional imported water supply turnouts to basin recharge and treatment facilities, agricultural well retrofits to backfill recycled water discharges into the Santa Ana River for delivery to Orange County, and an interconnection to a neighboring regional recycled water distribution system. Capital costs for SARCCUP conjunctive use projects in the Chino Basin are estimated at $30,300,000 for the first phase and $70,900,000 for the second phase, and are estimated to yield 95,400 AFY.

In order to coordinate the development of projects to fully utilize available Chino Basin storage for local, regional, and statewide benefits, IEUA and Chino Basin parties are in the process of creating the Chino Basin Water Bank (CBWB). The CBWB will bring together the region's supplemental water provider, major producing parties, and the owner-operators of the region's groundwater recharge, surface water treatment, recycled water development, and groundwater production facilities. The CBWB will apply to the Chino Basin Watermaster for the right to create a comprehensive storage and recovery program under existing basin rules and with a dedicated quantity of basin storage (starting at 100,000 AF and eventually growing to up to 1,000,000 AF), incorporating basin participation in SARRCUP as well as future conjunctive use opportunities. The CBWB will also facilitate additional recharge, production, and delivery infrastructure investments as called for by the RMPU, IRP, and SARRCUP planning efforts. CBWB are developing a joint powers authority agreement for adoption in late 2016.

Per Water Code section 79753, the Commission may only fund the public benefits of water storage projects. Further, ecosystem improvements must make up 50% of the funded public benefits (Water Code section 79756(b)). What public benefits does your project provide? (select all that apply):

☒ Ecosystem Improvements ☒ Water Quality Improvements ☒ Flood Control
☒ Emergency Response ☒ Recreation

Please describe the magnitude of the public benefits and how the project will be operated to provide the public benefits:

Water recharged and stored locally reduces local water suppliers' dependence on imported water supplies from the Bay Delta and thus reduces stress on that ecosystem. Increased reliability of local groundwater supplies by banking more water in wet years and extracting that water in dry years also reduces impacts on the Bay Delta ecosystem. In addition to developing conjunctive use projects, SARCCUP will restore 41 acres of functional riparian Santa Ana River habitat and 18,250 linear feet of Santa Ana Sucker river channel habitat, remove 800 acres of invasive Arundo Donax, and develop 40 acres of open space and one mile of educational hiking trails.

The conjunctive use program will improve local groundwater water quality by recharging low TDS stormwater and recycled water into the basin. Capturing and recharging storm water and dry-weather runoff will also improve water quality in the Santa Ana River, assist with Total Maximum Daily Load (TMDL) compliance for indicator bacteria, specifically fecal coliform and E. Coli, and reduce the concentrations of metals, nutrients, pathogens, and other constituents of concern. These contaminants are eliminated during recharge through soil-aquifer treatment processes and thus are not a concern for groundwater degradation. The TDS and nitrate concentrations in storm water recharge are very low, and increasing stormwater recharge lowers the TDS and nitrate concentration in the groundwater.

Stormwater recharge enhances flood control protection to downstream regions. Recharge basins can act as detention basins, slowing storm flow in existing drainage systems, having the effect of assisting restoration of the natural hydrologic functions.

Extraction and exchange projects will improve the reliability of public water distribution systems and allow sharing of regional facilities in drought and emergency response conditions. Groundwater will be banked locally, south of the San Andreas Fault, until extracted as needed.

Water Code section 79752 requires that funded projects provide measurable improvements to the Delta ecosystem or to the tributaries of the Delta. Please describe how your project provides ecosystem improvements in the Delta or tributaries to the Delta:

Chino Basin and regional water providers currently rely on water imported from the Delta through the State Water Project for up to one-third of regional water supplies. This project will create up to 300,000 AFY of local, dry year water supply that will not need to be imported from the Delta, making this quantity of water available for ecosystem health and improvement in the Delta and its tributaries.

Water Code sections 79755 and 79757 require the Commission to make a finding that a project will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta prior to allocating funding for a project. Please describe how your project could help advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta: As stated above, implementation of this project will reduce the need to import State Water Project water from the Delta into the Chino Basin and the Santa Ana River Watershed, thus providing additional water for the purpose of restoring the Delta's ecology and increasing water availability for beneficial uses in the Delta.
Please describe any other benefits provided by your project, such as water supply reliability benefits, and the potential beneficiaries: The proposed project provides significant local public benefit through the recharge, storage, and availability of additional groundwater and recycled water supply in the Chino Basin for use by the basin's public water providers. The initial phase of the program targets 100,000 acre-feet of storage (put) and extraction (take) facilities to supplement current supplies and a combined potential additional yield of up to 300,000 AFY of dry year, non-imported water supply for use locally and regionally throughout the Santa Ana River Watershed. Chino Basin and regional water users benefit directly from a reliable water supply provided by local public and private water agencies. Additionally, there are many non-public partners in the Chino Basin Watermaster process who represent agricultural and non-agricultural commercial interests with overlying groundwater production rights under the basin adjudication. While not directly participating in the proposed project, these partners play a key role through Watermaster's stakeholder-led regulation of local groundwater storage, and will indirectly benefit from groundwater quality improvements associated with the recharge of high quality imported water.