



Inyo County Water Department

Date: May 30, 2018

From: Inyo County Water Department

To: Inyo/Los Angeles Standing Committee

Subject: Consideration of potential new enhancement/mitigation projects

Long Term Water Agreement, Section II.X.

All existing enhancement/mitigation projects will continue unless the Inyo County Board of Supervisors and the Department, acting through the Standing Committee agree to modify or discontinue a project. Periodic evaluations of the projects shall be made by the Technical Group. Subject to the provisions of section VI, enhancement/mitigation projects shall continue to be supplied by enhancement/mitigation wells as necessary. New enhancement projects will be implemented if such projects are approved by the Inyo County Board of Supervisors and the Department, acting through the Standing Committee.

Under the provisions of the Long Term Water Agreement, Inyo County proposes the following new E/M projects:

RESTORE THE VAN NORMAN FIELD WATER ALLOCATION

Need: To establish a full share of irrigation for the *Van Norman Field E/M Project*

Background: On April 22, 2014, the Standing Committee expanded the boundary of the Van Norman Field E/M project (160 acres) to include a ten-acre pasture at the high school farm; however, the project's water allocation was not increased. The project now receives 2.8 acre-feet per acre (af/ac) duty rather than 3 af/ac.

Project Description: Revise allowable pumping from sole-source exempt well 425 to allow the modified Van Norman Field E/M project (170 acres) a full allocation of 3 af/ac.

Project Scope: Amend the scope of the Van Norman Field E/M Project, to increase the water commitment from 480 af/ac to 510 af/ac.

Water requirement: Up to 30 af of additional pumping from exempt sole-source well 425. The amount of water supplied to the farm may be adjusted in any year depending on the total amount of water used for the Van Norman E/M Project. During drought conditions, water supplies may be reduced as described in the Long Term Water Agreement, sections IV.A, and X.

Effectiveness of the project: Returning a 3 af/ac duty to the Van Norman Field E/M Project will fully implement restoring abandoned pastureland at the school farm and restore full agricultural production throughout the Project.

Impact of Project: This project will create no significant impacts to the environment and will improve native vegetation and allow increased livestock production.

Project Costs: Cost of energy to pump water, which is above and beyond that which would be required to supply the existing project.

REGREEN THE BARTELL AND BLAKE PARCELS IN BIG PINE

Need: To restore irrigation to regreen two barren parcels in Big Pine. These are a 5.6 acre LADWP property on Main Street in Big Pine, and a 7.2 acre parcel at Blake and School Street.

Background: These Los Angeles-owned parcels had historically been provided irrigation, but LADWP and the County disagree over LADWP's obligation to maintain irrigation on the parcels. Rather than potentially dispute the status of these parcels under the LTWA, this project would dedicate a 3 af/ac water allocation to the parcels for a yet to be identified use.

Project Description: Develop a source of water and conveyances needed to irrigate the Bartel and Blake parcels.

Project Scope: The *Big Pine Bartel E/M Project* would provide irrigation, and conveyances, to regreen pasture, or otherwise supply water needs for vegetation on up to 12.8 acres.

Water requirement: This is a water neutral proposal in that it restores water previously allocated to the properties. Furthermore, the County offers an alternative water-neutral solution, in which recycled water supplied from the Big Pine Community Service District's wastewater ponds would be used to charge an underground drip irrigation system to the Big Pine 160 revegetation project, which is not meeting goals and is in need of a water supply. In trade a volume of water equal to that supplied Big Pine 160 would be available to irrigate the Bartel and Blake parcels and potentially provide water for other community projects.

Effectiveness of the project: Establishing irrigation and regreening these vacant weed-filled parcels in the town of Big Pine and adjacent to the Big Pine Paiute Reservation would provide civic improvement and eliminate a source of dust from abandoned agriculture.

Impact of Project: Town beautification, economic development on abandoned land, reduction of dust and weed species, and elimination of a potential future dispute.

Project Costs: TBD

PROVIDE A FIRM WATER SUPPLY FOR BISHOP COUNTRY CLUB (170 ACRES) AND MOUNT WHITNEY GOLF CLUB COURSES (60 ACRES)

Need: Provide a dedicated allocation of water for the two golf courses.

Background: These golf courses have served the area for years with a water supply that meets management requirements. Recently LADWP has threatened to cut off water to the courses or charge a rate for the water that would make it infeasible to continue operation of these community recreational resources.

Project Description: Provide a dedicated on-going water allowance for recreation, landscape, and water features.

Project Scope: The *Water for Golf Courses E/M Project* would assure that the Bishop County Club (170 acre) would have on-going seasonal irrigation. Up to 5 af/ac of pumped water could be withdrawn without charge to irrigate greens, fairways, and landscape, and the Mount Whitney Golf Club would be assured seasonal irrigation.

Estimated water requirement: Water neutral, in that the *Water for Golf Course E/M Project* simply assures that water is available to these recreational resources, as it has in the past, without interruption.

Effectiveness of the project: The land associated with these recreation facilities is arguably Type E vegetation under the LTWA. This project would resolve uncertainties over their future irrigation supply caused when LADWP curtailed and threatened to begin charging for the facilities' water, and eliminate a potential LTWA dispute regarding Type E Vegetation. It would also maintain environmental benefits and water supply protections provided by the golf courses.

Impact of Project: A firm water allocation will reduce the uncertainty that landscape and water features can be maintained, allowing a greater investment in the property by the lessees. Both golf clubs along Highway 395 welcome northbound visitors and serve as a source of civic pride. Assuring a water supply would eliminate a potential future dispute.

Project Costs: No additional cost given observance of past practices.

PROVIDE A FIRM WATER SUPPLY FOR COUNTY PARKS AND CAMPGROUNDS

Need: To create a new E/M Project similar to the golf courses to ensure an ongoing water supply for County parks (total 143 acres) and campgrounds (total approximately 293 acres) not identified in the Long Term Water Agreement (LTWA), but for which LADWP has historically committed to providing water.

Background: The County operates a number of parks and campgrounds for which LADWP has already agreed to supply water, but that have no firm water allocation. Most are supplied with just enough water to maintain a sparse landscape.

Project Description: Assign a firm water supply to allow the County to continue to ensure the operation and maintenance of its parks and campgrounds throughout the County.

Project Scope: The *Water for Parks and Campgrounds E/M Project* would identify the existing source and conveyance required to improve and maintain an attractive landscape for these regionally important recreation resources. Underserved campgrounds include Portagee Joe, Independence Creek, Taboose Creek, Tinnemaha Creek, Triangle, Glacier View, and Schober

Lane; parks include Izaak Walton, Starlite, Mendenhall, Big Pine, Dehy, Independence, and Spainhower.

Estimated water requirement: Current use.

Effectiveness of the project: Providing water for recreational resources not already identified in the LTWA would eliminate a potential LTWA dispute regarding Type E vegetation and resolve uncertainties over LADWP's indication that it wants to begin charging for water.

Impact of Project: A dedicated water supply will allow for desired improvements to campgrounds and parks. Enhanced parks and campgrounds will increase visitation and contribute positively to the local economy. A firm water commitment would eliminate potential future disputes.

Project Costs: No additional cost given observance of past practices.

MAINTAIN WATER TO MONO COUNTY AGRICULTURAL LEASES (6,400 ACRES)

Need: Prevent profound ecological and economic impacts related to withdrawal of established water supply from 6,400 acres of regional ranchlands.

Background: Water has been supplied these ranchlands for the past 100-150 years. LADWP has proposed to withdrawal irrigation from thousands of widespread ranchlands in Mono County. At risk are rancher's livelihoods, and endangered species recovery plans. Based-on past experience of LADWP's agricultural irrigation withdrawal in Inyo County, we can expect that lands removed from irrigation in Mono County will dry and liberate dust, with the resulting emissions impacting the health of area residents and visitors. LADWP ratepayers have already spent millions of dollars mitigating impacts caused by withdrawing irrigation from agriculture in Inyo County. As demonstrated in the Owens Valley, it's extremely difficult and expensive to mitigate soil loss and dust emissions. In our County it has taken decades to reestablish vegetation where agriculture was abandoned. The majority of these project are still not finished, and LADWP claims that these projects are expected to take decades more to complete. This action will also impact lease operations in the Owens Valley creating compliance issues with the Long Term Water Agreement and associated plans.

Project Description: Maintain status-quo historic levels of irrigation to agricultural leases in Mono County

Project Scope: Establish a guaranteed on-going water allowance for existing agricultural leases in Mono County.

Estimated water use: Current use.

Effectiveness of the project: Although not subject to the Inyo/Los Angeles Agreement, agricultural leases in Mono County are economically linked to Inyo County lessees (which are subject to the LTWA) and the County as a whole, and affect the viability of Inyo County leases that are subject to the Water Agreement. Many of the Mono County leases serve as summer pasture for Inyo cattle. As such, the viability of Inyo County agriculture contemplated in the LTWAs is tied to the viability of the Mono County leases. Maintaining irrigation on Mono

County leases will maintain an economic and environmental enhancement for Inyo County, and avoid potential disputes and/or lawsuits.

Impact of Project: Continuation of productive agricultural operations in Mono County, and environmental protections in Inyo and Mono counties.

Project Costs: No additional cost given observance of past practices.

CONSTRUCT THE BIG PINE VETERANS PATH PROJECT

Need: Build a pedestrian path linking the town of Big Pine to the Triangle Campground and visitors' center to route pedestrian traffic off the Highway 395 shoulder.

Background: This proposed pedestrian path, which has had the support and approval of past LADWP leadership, has not been implemented.

Project Description: The 310-meter paved path would link the triangle campground and visitors station to the town. It will route pedestrian traffic off Highway 395. This water-neutral project could be approved, constructed, and maintained by LADWP as an enhancement/mitigation for Big Pine, which is LADWP's most heavily pumped wellfield in the Owens Valley.

Project Scope: Implementing the *Veteran's Path E/M Project* requires surveying, engineering, and constructing an all-weather path connecting the Triangle Park Visitor's Center and the existing town sidewalk.

Water use: Water neutral.

Effectiveness of the project: Provides a safe and attractive pedestrian/bike path for visitors and the community that links the campground and visitors center with town.

Impact of Project: Improved pedestrian safety and provides an important transportation link between tourist facilities and town services.

Project Costs: Approximately \$125,000 in funding was available to the County, but that funding source that is now unavailable due to delays in obtaining a land use agreement with LADWP.

PROVIDE AN ADEQUATE WATER ALLOCATION FOR TOWN WATER SYSTEMS

Need: To enhance the town's residents' ability to maintain vegetation on in-town properties.

Background: In 2005, LADWP transferred to Inyo County the ownership of the town water systems in the communities of Lone Pine, Independence, and Laws. An evaluation of water use at that time underestimated community water needs. The current allocation has proven to be inadequate for establishing and maintaining residential, commercial, and civic landscaping. A portion of the allocation is also used to provide water to other E/M projects. These enhancement projects should be supplied with their own dedicated water source.

Project Description: Based on a reassessment of water needs, the *Town Water Fulfillment E/M Project* would increase the amount of water allocated to these three communities.

Project Scope: Increase water allocations to town water systems based on established need.

Estimated water requirement: That which is adequate to fulfill current uses for Lone Pine Sports Complex and other E/M projects. Additional community water needs will be determined.

Effectiveness of the project: A proper water allocation would provide enough water to maintain civic landscape including street trees, and provide adequate water to satisfy residential landscape needs, and recognize source of water for other E/M projects such as the Lone Pine Sports Complex.

Impact of Project: Residents would have adequate water to maintain landscape, and street trees would be well-maintained and preserved.

Project Costs: No additional cost given observance of past practices (water is already being pumped and used in excess of short-sheeted allocations).

PROVIDE A FIRM WATER COMMITMENT FOR THE COUNTY FARM PROPERTY IN BIG PINE

Need: Provide adequate irrigation for the County Farm property in Big Pine (80 acres).

Background: The County Farm property cannot be efficiently irrigated with the County's Big Pine Water Association (BPWA) shares as currently interpreted and managed by LADWP. LADWP could and should dedicate a supply of water to the County Farm sufficient to fully irrigate the Farm.

Project Description: The *County Farm E/M Project* provides water to fully irrigate the County Farm property.

Project Scope: Assure adequate irrigation to maintain pasture throughout the County Farm property.

Water use: Fill the deficit by supplying annual total of 240 af from the BPWA conveyances.

Effectiveness of the project: Pasture will be fully irrigated allowing increased ranch yields with return water going back the LADWP conveyance system.

Impact of Project: Full irrigation of the County Farm pastures.

Project Costs: A full allocation is consistent with historic uses.

ALLOCATE A FIRM IRRIGATION COMMITMENT TO THE BISHOP AND BIG PINE SADDLE CLUBS

Need: To minimize dust, provide stock water, and maintain quality horse pastures at both the Bishop Saddle Club (25 acres) and Big Pine Saddle Club (2.5 acres) for grazing.

Background: Traditionally LADWP has supplied water to the horse pasture south of and adjacent to the Bishop Saddle Club. That practice has been discontinued and water is only available intermittently. As a result, pasture grass is spotty and the barren ground has become a source of fugitive dust. The development of a 2.5 acre pasture at the Big Pine Saddle Club would enhance the use of the facility and reduce dust emissions that are affecting the surrounding residential properties.

Project Description: Assure adequate irrigation to grow and maintain pastures adjacent to these two community equestrian centers.

Project Scope: The *Saddle Club E/M Project*, will provide adequate and regular irrigation to the Bishop Saddle Club pastures; and develop, irrigate, and maintain a pasture adjacent to the Big Pine Saddle.

Water use: A total of 83 af assuming 3 af/ac duty, derived from a combination of pumped and surface water.

Effectiveness of the project: An assured water allocation will develop and maintain pasture used by lessees to graze horses, improve the look of the facilities, and provide a vegetated cover to control dust.

Impact of Project: Improved operations and reduction in dust.

Project Costs: The Bishop Saddle Club allocation would be water neutral at 3 af/ac. The Big Pine Saddle Club would require field preparation and the installation of water conveyance and sprinklers at a cost to be determined. In addition the Big Pine Saddle Club will require a new allocation of 3 af/ac irrigation duty on 2.5 acres.

PROVIDE EXPANDED AND REPLACEMENT WATER-BASED RECREATION

Need: Open Tinemaha Reservoir (610 acres) and Pleasant Valley Reservoir (105 acres) to non-contact, non-motorized watercraft for recreation, to provide expanded access for on-water recreational opportunities in the Owens Valley.

Background: Boating opportunities in the Owens Valley are limited to small bodies of water including Klondike Lake (176 acres), Diaz Lake (76 acres), Buckley Ponds (total 46 acres), Farmers Ponds (31 acres), Saunders Pond (15 acres), and Millpond (7 acres). Combined, these Owens Valley water bodies total 351 acres. The actual acreages are less if waters congested by cattail and bulrush are considered. The County had expected expanded water-based recreation under the Long Term Water agreement. The Agreement identifies Haiwee Reservoir (642 acres) as an opportunity for water recreation, but Haiwee is closed to boating and fishing based on alleged security concerns.

Project Description: Open Tinemaha Reservoir and Pleasant Valley Reservoir to non-motorized watercraft for on-water recreational use.

Project Scope: The *Boating Recreation E/M Project* permits use of non-motorized watercraft on Tinemaha Reservoir and Pleasant Valley Reservoir. By comparison, in Mono County, Crowley

Lake Reservoir alone offers 4,742 acres of boating opportunities. Opening Tinemaha Reservoir and Pleasant Valley Reservoir would add 715 acres of year-round open water recreation in the Owens Valley; off-setting the loss of Haiwee (a potential LTWA dispute).

Estimated water requirement: Water neutral.

Effectiveness of the project: Doubles the acreage of open-water boating opportunities in the Owens Valley. This E/M project mitigates for the loss of recreational opportunities at Haiwee Reservoir, and potentially eliminates a dispute over the closure of Haiwee reservoir.

Impact of Project: Provides a substitute for water-based recreation at Haiwee Reservoir that was anticipated in the LTWA, but denied. Greatly expands opportunities for sought after, on-water recreation in the Owens Valley. This project will attract visitors and provide a boost to the local economy.

Project Costs: TBD

PROTECT AND RESTORE THE OWENS VALLEY WOODLANDS

Need: Maintain, protect, and enhance the cottonwood, willow, and locust woodlands throughout the Owens Valley.

Background: Trees beautify the valley, provide habitat for wildlife, and provide summer shade for cattle and residents. Valley-wide reductions in pasture irrigation allotments, and more rigorous ditch maintenance on LADWP lands is contributing an overall reduction in the number of healthy trees throughout the Owens Valley. Larger trees, some planted by ranchers and homesteaders more than a hundred years ago are reaching the end of their 70-120 year lifespan. Fewer trees are recruiting naturally then are being lost leading to an overall decline in wooded land.

Project Description: The *Owens Valley Woodland Protection E/M* Project will assess current arboreal conditions in the Owens Valley, and develop a written plan to maintain, protect, and enhance the valley woodlands. Implement that plan.

Project Scope: A plan would be developed and implemented to maintain, protect, and enhance the Owens Valley woodlands.

Estimated water requirement: Water neutral to maintain current canopy. Approximately 400 af groundwater is required to maintain 160 acres of fully mature cottonwood.

Effectiveness of the project: The Owens Valley woodland will be maintained, protected, and enhanced.

Impact of Project: The richness of the Owens Valley environment is in great part related to the beauty and environmental benefits of trees. This project assures that trees are maintained, protected, and enhanced to provide continued aesthetic and habitat benefits.

Project Costs: TBD

IMPROVE THE LOWER OWENS RIVER THROUGH THE ISLANDS

Need: Improve efficiency of the river flow through the Islands swampland to restore the diverse habitats that pre-existed the LORP.

Background: The Lower Owens River is naturally a low gradient system. One area in particular, the 450-acre “Islands,” located 4.5 miles north of Lone Pine was not addressed during design and construction of the LORP and has backed up the river and created an ever-expanding marsh monoculture of emergent vegetation. There is no distinct channel through the Islands and the force and volume of the season habitat flow is attenuated for 25 miles downriver. When flushed, the organic load contributed by acres of dying and decaying plant material can lead to low dissolved oxygen levels that have caused multiple incidents of fish kill.

Project Description: The *Islands Habitat Enhancement E/M Project* would seek to implement a plan to improve and maintain water conveyance through the islands to encourage more diverse river-riverine habitat for a range of terrestrial and aquatic species. It is expected that restoring the historic river channel will improve flow rates, save water for the City of Los Angeles, and restore pasture required by LTWA and LORP.

Project Scope: Conduct a study to explore the feasibility of opening channel through the islands. If feasible, and of benefit to the goals of the LORP, produce and implement a plan to improve conveyance.

Estimated water requirement: Water neutral and/or water savings due to reduction in evapotranspiration.

Effectiveness of the project: TBD

Impact of Project: Goals would include the restoration of a diverse mosaic of habitat types in the Islands area and water quality improvement through improved flow.

Project Costs: Feasibility study cost TBD. Implantation costs TBD.

ASSIST DEVELOPMENT AND IMPLEMENTATION OF THE OWENS RIVER WATER TRAIL

Need: Restore lost opportunities for the use of watercraft in the Lower Owens River.

Background: The Lower Owens River Project (LORP) has expanded river-riparian habitat in the Owens Valley, but that’s come at the expense of recreational access. Large portions of the Lower Owens River, which were accessible for boating and fishing at pre-LORP low flows, are now choked with emergent vegetation. Open water opportunities have been declining year after year as a result of design and construction oversight. The river channel was not prepared before water was reintroduced, and as a result, marsh in the channel, which developed pre-project under low-flow conditions, is now impeding flow, backing up water, and creating an aggrading condition. Mechanically removing about 2.25 miles of blockage would create a 6-mile section of open water east of Lone Pine.

Project Description: Assist the County in developing and constructing an Owens River Water Trail.

Project Scope: The *Owens River Water Trail E/M Project* removes channel blockages to create 6.3 miles of open-water for recreational use by non-motorized watercraft.

Water requirement: Water neutral to water saving.

Effectiveness of the project: The project would mitigate for the unexpected loss of on-water recreational opportunities in the LORP due to emergent vegetation overgrowth and address design and construction flaws in the project.

Impact of Project: Provides mitigation for unanticipated loss of on-water recreational opportunities. Achieves a key LORP goal of sustainable recreation and improves river-riparian habitat. Provides opportunities for economic development in the southern Owens Valley

Project Costs: Currently grant funded.