Draft Finding of No Significant Impact:

Implementation of the Recycled Water Master Plan, Fort Irwin, California

The State of California defines recycled water as water that is treated to a degree that makes it suitable for direct beneficial use or controlled use that would not otherwise occur. The California State Water Resources Control Board (SWRCB) considers recycled water a valuable resource that can help reduce local water use, particularly in drought conditions. SWRCB Resolution No. 2009-0011 states that increasing the acceptance and promoting the use of recycled water is a means to achieve sustainable local water supplies.

Fort Irwin currently irrigates a portion of green space in the cantonment with recycled water, while treated groundwater (domestic use [DO] water) is used to irrigate green space that lacks connections to recycled water. DO water is also currently used for other nonpotable uses, including wastewater treatment plant (WWTP) process water and in cooling towers. Fort Irwin has developed a master plan for recycled water use, titled *Fort Irwin Capital Improvement Project (CIP) WW59, Recycled Water Master Plan* (Recycled Water Master Plan), that describes existing conditions and how to expand the recycled system. Implementation of the Recycled Water Master Plan would increase the use of recycled water, which would extend the lifespan of the water supply at Fort Irwin. Fort Irwin proposes to implement the Recycled Water Master Plan and expand the recycled water system.

The Proposed Action includes the construction and operation of approximately 52,170 linear feet of recycled water pipeline, a one million gallon (MG) recycled water storage tank, and a pump station. Construction would occur in phases with availability of funding determining when future phases would be designed and constructed. Fort Irwin has prepared the attached Programmatic Environmental Assessment (EA) which provides an evaluation of the environmental and socioeconomic impacts of constructing and operating the Proposed Action. The actions considered in the Programmatic EA are part of a major federal action, which must be evaluated under the National Environmental Policy Act of 1969 (NEPA). The Programmatic EA was prepared pursuant to 32 *Code of Federal Regulations* Part 651 and the President's Council on Environmental Quality regulations (Title 40, United States Code, Parts 1500 through 1508) for implementing the procedural requirements of NEPA.

In preparation of the EA, it was determined that no alternatives, other than those presented in the EA, would satisfy the purpose and need of the Proposed Action. There were several options to complete the Proposed Action that included different recycled water pipeline routes and pump station locations. Two components of the Proposed Action (Improvements IIIa [WW62] and IIIb [WW60]) that would expand the recycled water distribution have been designed. While the exact alignments for future improvements are not known, the general location of future improvements are known and options for future improvements were analyzed programmatically within the EA. Additional NEPA analysis for future improvements could be required once alignments are determined after additional engineering and feasibility investigations. The level of that future NEPA analysis will be determined prior to implementation of those improvements. Future NEPA analysis would be tiered from this Programmatic EA and could be a Categorical Exclusion if conditions have not changed substantially from those in this analysis, a supplemental EA, or a new independent EA.

Description of the Proposed Action

The Proposed Action is to expand the recycled water system in the Fort Irwin cantonment area as presented in the Recycled Water Master Plan. Recycled water would be used for:

- Irrigation of playing fields, landscaped areas, and other open space currently irrigated with DO water
- Industrial water for cooling towers
- Dust control and construction water
- WWTP process water

Fort Irwin has identified 37 landscaped sites, eight cooling towers, four fill stands for dust control, and WWTP process water for use of recycled water. To deliver recycled water to these sites, the recycled water system would need to be expanded. The following components would be needed to deliver recycled water to the selected sites to meet the purpose and need:

- One, 1-MG recycled water storage tank
- One booster pump station
- Pipelines including valves and appurtenances

The Proposed Action would require a recycled water storage tank and piping, and a pump station to convey the recycled water to the storage tank and to distribute the water from the proposed tank. Piping would be extended to each future-use site, and piping loops of the recycled water system within the cantonment would provide additional conveyance reliability needed to deliver recycled water to meet greater immediate demands when all sites are connected to the system. Proposed service lines (referred to as laterals) would deliver recycled water to sites near the recycled water piping system. Laterals presented in the Proposed Action may or may not be needed. Existing irrigation service lines currently using DO water could be converted for use with the recycled water system.

Construction would occur in phases so that the existing recycled water system has sufficient capacity to continue expansion of the system when the pipelines are constructed in higher elevation areas. Not all projects would be immediately needed and construction of the storage tank and pump station would occur in the future. The availability of funding would determine when construction of future phases would occur.

The proposed pipelines construction would mainly be within the paved roads of the developed cantonment. The typical construction method would include traditional cut-and-cover techniques. Roads and sidewalks would be cut where required and replaced to match existing conditions to the extent practicable. The workspace for constructing the piping in paved areas would generally be 20 feet wide. The diameter of the proposed main distribution pipelines varies from four to 12 inches, while proposed service lines would vary from 0.75 inch to four inches in diameter. The depth of the trench would vary between three and six feet, but typically would be four feet deep.

The proposed recycled water storage tank and pipeline supplying the tank would be constructed on undeveloped land. The width of disturbance to construct the pipe on undeveloped land would be less than 25 feet. The proposed recycled water storage tank would require an access road. The access road would be within the project area.

In total, implementation of the Proposed Action would disturb approximately 5.5 acres of land. Construction for each pipeline segment would take approximately six to eight months to complete. Depending upon funding availability, more than one pipeline segment could be constructed per construction project. The pump station and the recycled water storage tank project would each take approximately 12 months to construct. Table 1 presents estimated lengths and estimated disturbed area for each of the proposed recycled water pipeline improvements.

Table 1. Estimated Lengths and Estimated Disturbed Area of Proposed Piping

Improvement ID (CIP No.)	Approximate Linear Feet of Disturbance	Approximate Area of Disturbance (square feet)	Type of Improvement
IIe Reception Campus (WW57)	270	585	Distribution for Irrigation
IIf MWR Pavilion (WW58)	460	1,150	Distribution for Irrigation
IIh Garrison Headquarters (WW61)	880	1,910	Distribution for Irrigation
IIh Lateral	310	620	Distribution for Irrigation
IIIa B Avenue (WW62)	3,060	7,650	Distribution for Irrigation
IIIa Lateral[a]	1,250	2,500	Distribution for Irrigation
IIIb 7th Street Option (WW60)[a]	5,150	12,875	Distribution for Irrigation
IIIb Lateral[a]	800	1,600	Distribution for Irrigation
IIIc Sanitary Fill Road (WW87)	6,350	15,875	Distribution for Fill Stand
IVd Inner Loop Rd Pipeline to VIb Tank Option (WW96)	4,740	10,270	Recycled Water Storage Tank and Distribution
IVd Lateral	440	880	Distribution for Irrigation
Va Barstow Rd. (WW64)	2,140	5,350	Distribution for Irrigation
Va Lateral	1,180	2,360	Distribution for Irrigation
Vb Goldstone Community Center (WW65)	1,840	4,600	Distribution for Irrigation
Vb Lateral 1	550	1,100	Distribution for Irrigation
Vb Lateral 2	370	740	Distribution for Irrigation
Vb Lateral 3	280	560	Distribution for Irrigation
Vc Goldstone Rd. to Lewis Elementary	1,750	4,375	Distribution for Irrigation
Vd Pork Chop Hill and Apache	2,930	6,350	Distribution for Irrigation
Ve Blackhawk Dr.	590	1,280	Distribution for Irrigation
Ve Lateral	340	680	Distribution for Irrigation
Vf Rhineland Dr.	790	1,710	Distribution for Irrigation
Vg Remagen Dr.	780	1,690	Distribution for Irrigation
Vg Lateral	1,840	3,680	Distribution for Irrigation
Vh Tippecanoe St.	2,180	4,725	Distribution for Irrigation
Vh Lateral	110	220	Distribution for Irrigation
Vi St. Mihiel St.	1,140	2,470	Distribution for Irrigation
Vi Lateral	830	1,660	Distribution for Irrigation
Vj New Hospital	1,430	2,860	Distribution for Irrigation

Table 1. Estimated Lengths and Estimated Disturbed Area of Proposed Piping

Improvement ID (CIP No.)	Approximate Linear Feet of Disturbance	Approximate Area of Disturbance (square feet)	Type of Improvement
VIIa South Loop Rd. (WW89)	1,860	4,030	Distribution for Secondary Loop
VIIa/VIIb Lateral	520	1,040	Distribution for Fill Stand
VIIb Barstow Road Fill Stand (WW72)	2,100	4,200	Distribution for Fill Stand
VIIc Langford Lake Fill Stand (WW72)	2,910	5,820	Distribution for Fill Stand
Total	**52,170**	**117,415**	-

Source: CH2M, 2014

CIP = Capital Improvement Project

ID = identification

MWR = Morale, Welfare and Recreation

Note: Improvements analyzed in detail. Other improvements were analyzed programmatically.

There are other recycled water pipeline routes that could be constructed in lieu of options presented in Table 1 or that may not be constructed because of a high potential for utility conflicts. These potential options would meet the purpose and need of the Proposed Action and are presented in Table 2. These options are included within the Proposed Action and could be implemented if utility conflicts or other issues with proposed piping in Table 1 are identified or if determined feasible after further investigation. Improvement IVd Rhineland Drive to Improvement VIb Tank Option would replace Improvement IVd Inner Loop Road Pipeline to VIb Tank Option (WW96) and associated laterals, while Improvement Vb Goldstone Road Option would replace Improvement Vb Goldstone Community Center and associated laterals. Improvement VIId Fill Stand at Goldstone Road would likely have utility conflicts and would require further investigation to determine the feasibility of construction.

Table 2. Proposed Piping Estimated Lengths and Estimated Disturbed Area of Other Potential Options

Improvement ID (CIP No.)	Approximate Linear Feet of Disturbance	Approximate Area of Disturbance (square feet)	Type of Improvement
IVd Rhineland Dr. to VIb Tank Option	3,950	9,875	Recycled Water Storage Tank and Distribution
IVd Lateral	650	1,300	Distribution for Irrigation
Vb Goldstone Rd. Option (WW65)	2,000	5,000	Distribution for Irrigation
VIId Fill Stand at Goldstone Rd.	3,130	6,260	Distribution for Fill Stand

Source: CH2M, 2014

The proposed infrastructure that would be constructed aboveground is listed in Table 3.

Table 3. Proposed Aboveground Improvements and Estimated Disturbed Area

Proposed Improvements (CIP No.)	Approximate Disturbed Area (square feet)
Recycled Water Storage Tank	90,000 for tank 21,000 for 15-foot-wide access road

Table 3. Proposed Aboveground Improvements and Estimated Disturbed Area

Proposed Improvements (CIP No.)	Approximate Disturbed Area (square feet)
Recycled Water Booster Pump Station (WW94)	10,000
DC1 Fill Stand (WW72)	565
DC2 Fill Stand (WW87)	565
DC4 Fill Stand (WW72)	565
DC5 Fill Stand (Goldstone Rd. west of Outer Loop Rd.)	565
Total	**123,260**

Source: CH2M, 2014

No Action Alternative

Under the No Action Alternative, the recycled water system at Fort Irwin would not be expanded or improved. Fort Irwin would continue to use DO water for some irrigation, cooling tower, WWTP process water, and dust control purposes. DO water would also be used to meet future irrigation demands, as well as future demands for dust control, cooling towers, and WWTP process water. Long-term use of DO water for these purposes instead of recycled water would reduce the sustainability of the Fort Irwin water supply. Up to 0.5 MG per day of DO water would be used to meet future demands under the No Action Alternative.

Environmental Consequences

The Programmatic EA evaluated potential impacts on land use planning and aesthetics, geology, soils, mineral resources, biological resources, water resources, air quality, noise, cultural resources, socioeconomics, environmental justice, transportation, utilities, hazardous and toxic substances, and recreation.

As discussed in the Programmatic EA, implementation of the Proposed Action would result in temporary and less than significant negative impacts on soils, flora, fauna, special-status species, surface waters, air quality, noise, transportation, human health and safety, aesthetics, and hazardous waste and materials from construction activities including added workers and equipment use. Measures would be implemented, as appropriate, to reduce impacts on these resources. There would be a long-term, less than significant negative impact on flora, fauna, and special-status species from the removal of approximately 2.5 acres of desert scrub habitat. There would be a long-term, less than significant negative impact on air quality and noise from the proposed pump station. There would be a long-term, less than significant negative impact to aesthetics due to the proposed recycled water storage tank.

There would be temporary beneficial impacts to the regional economy from jobs, income, and earnings from construction. There would be long-term beneficial impacts to groundwater and the recycled water system by expanding and improving the recycled water system, which would allow for greater use of recycled water. Reducing the use of DO water for irrigation and other nonpotable uses would increase the lifespan of the Fort Irwin water supply and reduce the amount of salts imported to the Irwin groundwater basin.

To reduce temporary impacts related to potential traffic congestion that could occur during construction, a traffic control plan would be designed and implemented for each phase. The traffic control plan could include detours, flaggers, and would include coordination with appropriate Fort Irwin staff to ensure that emergency operations are not impacted. If warranted, construction could occur in the evenings or weekends to avoid high-traffic-volume periods. With use of a traffic control plan, traffic impacts would be less than significant.

The EA was placed at the Barstow Public Library, the Fort Irwin library, and Fort Irwin Environmental Division, Directorate of Public Works, for public review. The public was invited to comment through advertisements in the local newspapers.

For further information regarding the EA or this Draft Finding of No Significant Impact (FNSI), please contact: Mr. Clarence Everly, Fort Irwin Directorate of Public Works, Environmental Division, Building 602, P.O. Box 105085, Fort Irwin, California, 92310-5085, or via e-mail at clarence.a.everly.civ@mail.mil.

Conclusion

Based on the analysis presented in the EA, I find that implementation of the Proposed Action would have no significant impact on the human or natural environment. Initial Improvements IIIa (CIP WW62) and IIIb (CIP WW60) may be implemented at this time without additional NEPA analysis. Prior to implementation of future improvements, additional NEPA analysis may be warranted if conditions are determined by Fort Irwin environmental staff to have changed from those analyzed in the Programmatic EA. Additional NEPA analysis and surveys, if determined necessary, would be conducted prior to implementation of future improvements. Therefore, a FNSI is issued for the Proposed Action, and no Environmental Impact Statement is required.

Date

G. Scott Taylor
COL, AR
Commanding