

RECLAMATION

Managing Water in the West

FINDING OF NO SIGNIFICANT IMPACT

North Kern Water Storage District Supervisory Control and Acquisition System Automation and Evapotranspiration Improvements

FONSI-18-064



U.S. Department of the Interior
Bureau of Reclamation
South-Central California Area Office

July 2019

Mission Statements

The mission of the Department of the Interior is to conserve and manage the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provide scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honor the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

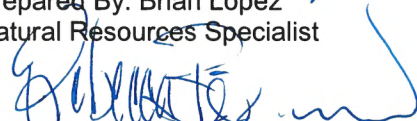
BUREAU OF RECLAMATION
South-Central California Area Office, Fresno, California

FONSI-18-064

**North Kern Water Storage District Supervisory
Control and Acquisition System Automation and
Evapotranspiration Improvements**


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Introduction

In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, the Bureau of Reclamation (Reclamation) has issued this Finding of No Significant Impact (FONSI), which is supported by Reclamation's attached Environmental Assessment (EA)-18-064, *North Kern Water Storage District Supervisory Control and Acquisition System Automation and Evapotranspiration Improvements*, hereby incorporated by reference.

Background

The North Kern Water Storage District (North Kern) is a public agency which supplies surface and groundwater supplies to about 52,000 acres of irrigated agricultural lands north of Bakersfield, California. As part of an effort to modernize on-site well equipment, North Kern has begun to install magnetic flowmeters, telemetry units, canal level transmitters, water quality sensors, and evapotranspiration (ET) stations.

North Kern has been provided prior funding from Reclamation through grant opportunities for implementation of the modernized water control and monitoring facilities and improved water management infrastructure, which was reviewed in EA-17-23-MP, *North Kern Water Storage District Calloway Canal Lining and Water Delivery Improvements*, for which a FONSI was signed on December 5, 2017. The final step to implement the proposed upgrades includes integration of the on-site equipment with a Supervisory Control and Data Acquisition (SCADA) system; a software platform that compiles, analyzes, and interprets data received from the automated remote control and monitoring devices into a centrally-accessed user interface. This final step includes acquisition of a server and software that ties into all the on-site equipment.

North Kern has applied for a WaterSMART Small-scale Water Efficiency Project grant for \$75,000 of financial assistance from Reclamation for installation of-, and migration to-, a centralized SCADA system, as well as data processing for the ET stations and a surface renewal station.

Alternatives Considered

No Action Alternative

Under the No Action Alternative, Reclamation would not provide grant funding to North Kern for implementation of the SCADA system and for data processing for the ET stations and a surface renewal station. For the No Action Alternative, North Kern would continue to operate and maintain their water distribution system and acquire and implement upgrades. Without the additional funding provided in the Proposed Action, either another source of funding would need to be secured to cover the costs of the installation and implementation of the SCADA system, as well as data processing for the ET stations and the surface renewal station, or such costs may be passed down to North Kern's customers as elevated water prices and fees.

Proposed Action

Under the Proposed Action, Reclamation would provide a \$75,000 WaterSMART Small-scale Water Efficiency Project Grant to North Kern for partial funding of the installation and implementation of the SCADA system and data processing for the ET stations and a surface renewal station. North Kern would be providing a cost-share portion through its Capital Reserve Funds, equating to \$93,432. Specific actions are addressed in Section 2.2 of EA-18-064.

Comments on the EA

Reclamation provided the public with an opportunity to comment on Draft EA-18-064 between June 8, 2019 and July 1, 2019. No comments were received.

Findings

In accordance with NEPA, Reclamation has determined that the approval of the Proposed Action is not a major federal action that will significantly affect the quality of the human environment; consequently, an environmental impact statement is not required.

The following reasons are why the impacts from the proposed action are not significant:

- The proposed action will not significantly affect public health or safety (40 CFR 1508.27(b)(2)).
- The proposed action will not significantly affect natural resources and unique geographical characteristics such as proximity to historic or cultural resources; parks, recreation, and refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order (EO) 11990); flood plains (EO 11988); national monuments; migratory birds; and other ecologically significant or critical areas (40 CFR 1508.27(b)(3)).
- There is no potential for the effects to be considered highly controversial (40 CFR 1508.27(b)(4)).
- The proposed action will not have possible effects on the human environment that are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b)(5)).
- The proposed action will neither establish a precedent for future actions with significant effects nor represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6)).
- The proposed action will not have cumulatively significant impacts (40 CFR 1508.27(b)(7)).
- The proposed action will not significantly affect historic properties (40 CFR 1508.27(b)(8)).

- The proposed action will not significantly affect listed or proposed threatened or endangered species, or its habitat that has been determined to be critical under the Endangered Species Act of 1973 (40 CFR 1508.27(b)(9)).
- The proposed action will not threaten a violation of Federal, State, tribal or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)).
- The proposed action will not affect any Indian Trust Assets (512 DM 2, Policy Memorandum dated December 15, 1993).
- Implementing the proposed action will not disproportionately affect minorities or low-income populations and communities (EO 12898).
- The proposed action will not limit access to, and ceremonial use of, Indian sacred sites on Federal lands by Indian religious practitioners or adversely affect the physical integrity of such sacred sites (EO 13007 and 512 DM 3).

RECLAMATION

Managing Water in the West

Final Environmental Assessment

North Kern Water Storage District Supervisory Control and Acquisition System Automation and Evapotranspiration Improvements

EA-18-064



U.S. Department of the Interior
Bureau of Reclamation
South-Central California Area Office

July 2019

Mission Statements

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The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Section 1 Introduction

The Bureau of Reclamation (Reclamation) provided the public with an opportunity to comment on the Draft Finding of No Significant Impact (FONSI) and Draft Environmental Assessment (EA) between June 7, 2019 and July 1, 2019. No comments were received during this period. Changes between this Final EA and the Draft EA, which are not minor editorial changes, are indicated by vertical lines in the left margin of this document.

1.1 Background

The North Kern Water Storage District (North Kern) is a public agency which supplies surface and groundwater supplies to about 52,000 acres of irrigated agricultural lands north of Bakersfield, California (Figure 1). As part of an effort to modernize on-site well equipment, North Kern has begun to install magnetic flowmeters, telemetry units, canal level transmitters, water quality sensors, and evapotranspiration (ET) stations.

North Kern has been provided prior funding from Reclamation through grant opportunities for implementation of the modernized water control and monitoring facilities and improved water management infrastructure, which was reviewed in EA-17-23-MP, *North Kern Water Storage District Calloway Canal Lining and Water Delivery Improvements*, for which a FONSI was signed on December 5, 2017 (Reclamation 2017). The final step to implement the proposed upgrades includes integration of the on-site equipment with a Supervisory Control and Data Acquisition (SCADA) system; a software platform that compiles, analyzes, and interprets data received from the automated remote control and monitoring devices into a centrally-accessed user interface. This final step includes acquisition of a server and software that ties into all the on-site equipment.

North Kern has applied for a WaterSMART Small-scale Water Efficiency Project grant for \$75,000 of financial assistance from Reclamation for installation of-, and migration to-, a centralized SCADA system, as well as data processing for the ET stations and a surface renewal station.

1.2 Need for the Proposed Action

By providing grant funding, Reclamation would further the goals and objectives of the WaterSMART Program as they apply to water supply efficiency within North Kern and the San Joaquin Valley. If provided the grant, North Kern would be afforded the opportunity to acquire and implement a SCADA system, as well as data processing for the ET and surface renewal stations at a lower financial burden. This would not only help reduce costs through greater operational efficiencies, but North Kern would also not have to pass the greater cost on to their customers.

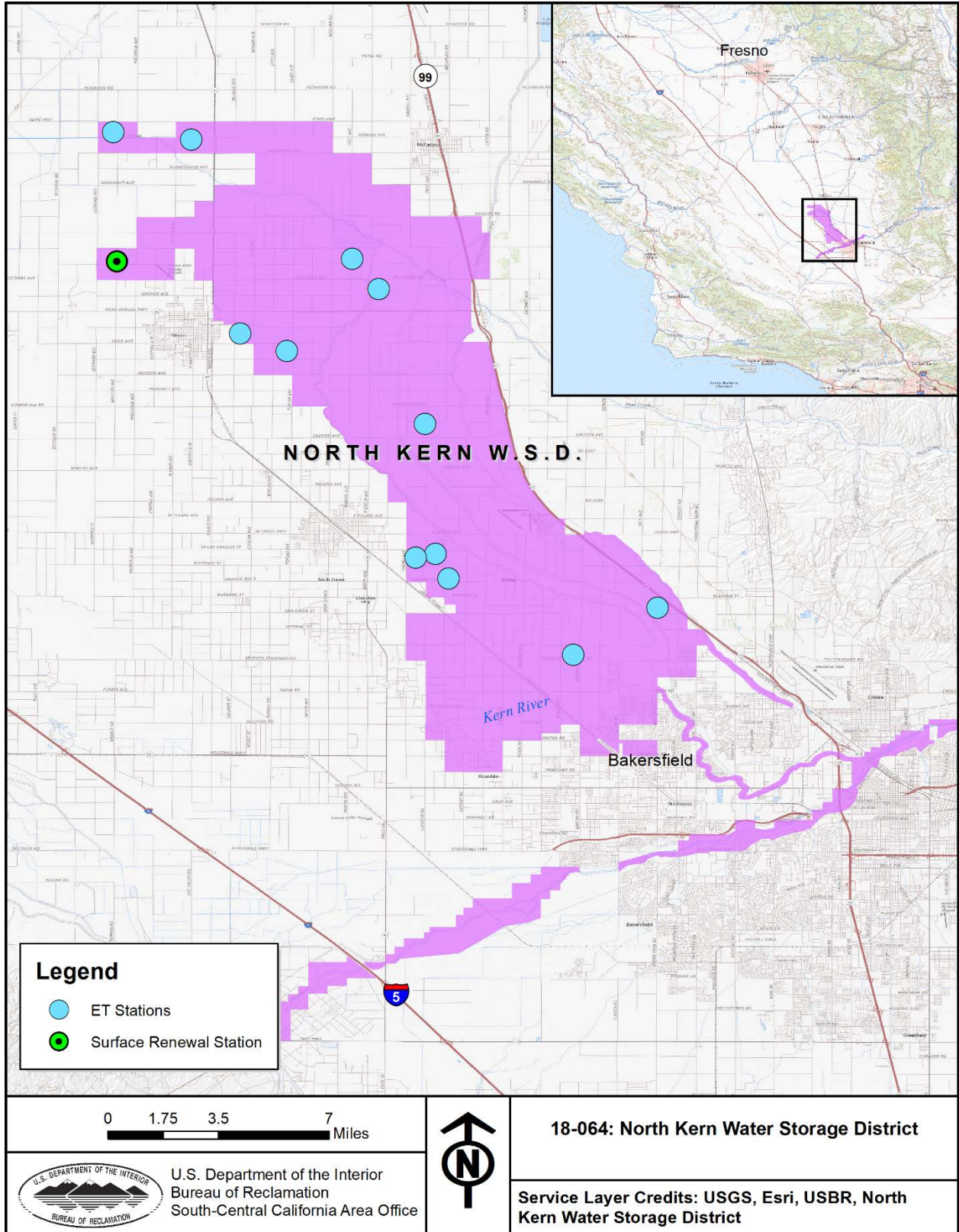


Figure 1. Proposed Action Area

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not provide grant funding to North Kern for implementation of the SCADA system and for data processing for the ET stations and a surface renewal station. For the No Action Alternative, North Kern would continue to operate and maintain their water distribution system and acquire and implement upgrades. Without the additional funding provided in the Proposed Action, either another source of funding would need to be secured to cover the costs of the installation and implementation of the SCADA system, as well as data processing for the ET stations and the surface renewal station, or such costs may be passed down to North Kern's customers as elevated water prices and fees.

2.2 Proposed Action

Under the Proposed Action, Reclamation would provide a \$75,000 WaterSMART Small-scale Water Efficiency Project Grant to North Kern for partial funding of the installation and implementation of the SCADA system and data processing for the ET stations and a surface renewal station. North Kern would be providing a cost-share portion through its Capital Reserve Funds, equating to \$93,432.

Under the Proposed Action, North Kern would install a server and software within their main office, enabling remote data acquisition and central control in order to maximize water use efficiency. The capabilities of the SCADA system include the following:

- Record and analyze all data transmitted from the well and canal sites;
- generate instantaneous reports for groundwater pumped, summarize depth-to-water and other water quality parameters; and
- eliminate or reduce manned patrols, provide constant system-wide monitoring, and automatically react to alarms and events by performing emergency shutdowns or other control actions.

The SCADA system enables real-time data acquisition for informed water management decisions and enables automated controls in order to yield more flexibility and efficiency in meeting grower demands and advancements in water conservation, including enhancing the ability to monitor recharge capacity at recharge basins.

Furthermore, the Proposed Action would provide funding to North Kern for processing of the data collected by the ET stations and a surface renewal station which enable North Kern to measure the amount of evapotranspiration per unit area where water is applied to crops and to measure relative humidity, wind speed, solar radiation, and precipitation. The processed ET and surface renewal station data would enable North Kern and its growers to effectively correlate the crop yield with the applied water. North Kern anticipates that monitoring ET values would reduce the amount of applied water, which would ultimately lead to a reduction in groundwater pumped.

Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Required Resource Disclosures

Department of the Interior Regulations, Executive Orders, and Reclamation guidelines require a discussion of Indian sacred sites, Indian Trust Assets, and Environmental Justice when preparing environmental documentation. Impacts to these resources were considered and found to be absent. Brief explanations for their elimination from further consideration are provided below.

3.1.1 Indian Trust Assets

Indian trust assets are the legal interest in assets that are held in trust by the United States Government for federally-recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally-recognized Indian tribes. “Assets” are anything owned that holds monetary value. “Legal interests” means there is a property interest for which there is a legal remedy, such as compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. Indian Trust Assets cannot be sold, leased or otherwise alienated without approval of the United States. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, Rancherias, and Public Domain Allotments are common Indian Trust Assets in California. There would be no impact to Indian Trust Assets as there are none in the Action Area. The nearest Indian Trust Asset is a Public Domain Allotment 36.71 miles northeast of the Proposed Action Area.

3.1.2 Indian Sacred Sites

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as,

“any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.”

Executive Order 13007 requires Federal land managing agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites.

The Proposed Action would not limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or affect the physical integrity of such sacred sites. There would be no impacts to Indian sacred sites as a result of the Proposed Action.

3.1.3 Environmental Justice

Executive Order 12898 requires each Federal agency to identify and address any disproportionately-high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations.

No significant changes in agricultural communities or practices would result from the Proposed Action. The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease, nor would it disproportionately impact economically disadvantaged or minority populations.

3.2 No Action Alternative

Under the No Action Alternative, Reclamation would not provide grant funding to North Kern for implementation of the SCADA system, as well as data processing for the ET stations and a surface renewal station.

3.2.1 Socioeconomic Resources

Under the No Action Alternative, North Kern would continue to operate and maintain their water distribution system and acquire and implement upgrades. However, without the additional \$75,000 in federal funding provided in the Proposed Action, another source of funding would need to be secured to cover the costs of the installation and implementation of the SCADA system and data processing for the ET stations and the surface renewal station. These costs would likely be passed down to North Kern's customers as elevated water prices and fees. These costs would contribute to higher overhead for farmers within North Kern, potentially reducing their ability to compete with farms in other districts and making certain crops less viable.

3.3 Proposed Action

The Proposed Action involves grant funding for the installation and implementation of a SCADA system at the North Kern main office, as well as data processing for the ET stations and a surface renewal station. The following resources were reviewed for potential impacts caused by North Kern's installation and maintenance of the SCADA system and ET and surface renewal station data processing under the Proposed Action.

3.3.1 Air Quality

There would be no direct, indirect, or cumulative impacts to air quality as a result of implementing the Proposed Action as the Proposed Action simply involves the installation and maintenance of the SCADA system and ET and surface renewal station data processing. These operations would not result in construction or ground disturbing activities that could affect air quality.

3.3.2 Biological Resources

There would be no direct, indirect, or cumulative impacts to biological resources as a result of implementing the Proposed Action, as the Proposed Action simply involves the installation and maintenance of the SCADA system and ET and surface renewal station data processing. These operations would not involve any activities that would affect biological resources.

3.3.3 Cultural Resources

There would be no direct, indirect, or cumulative impacts to cultural resources as a result of implementing the Proposed Action as the Proposed Action does not involve any new construction or ground disturbing activities. Reclamation has determined that this is the type of action that does not have the potential to cause effects on historic properties, should such properties be present, pursuant to 36 CFR § 800.3(a)(1). See Appendix A for Reclamation's determination.

3.3.4 Global Climate Change

There would be no direct, indirect, or cumulative impacts to global climate change, as the Proposed Action does not result in generation of greenhouse gas emissions.

3.3.5 Water Resources

The installation and maintenance of a SCADA system within North Kern's main office will enable the district to monitor real-time data on water management activities, generate reports to develop greater efficiency of irrigation and conveyance infrastructure, and reduce human error and required staff hours to operate equipment and collect data. Processing the data collected by the ET stations and the surface renewal station will enable North Kern to work closely with their customers to ensure that the application of water is appropriate to the specific crops and soils involved. These efficiencies would also facilitate reduction of groundwater impacts by eliminating excessive pumping and reducing applied water on crops, thereby improving overall water supply reliability.

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Section 4 Consultation and Coordination

4.1 Public Review Period

The environmental review completed in EA 17-23-MP was available for public review from October 30, 2017 to November 10, 2017. EA 17-23-MP received no comments. Reclamation provided the public with an opportunity to comment on the Draft FONSI and Draft EA between June 7, 2019 and July 1, 2019. No comments were received.

4.2 Coordination

Reclamation is coordinating with North Kern regarding the Proposed Action

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Section 5 References

Reclamation. 2017. EA/FONSI 17-23-MP North Kern Water Storage District Calloway Canal Lining and Water Delivery Improvements. Mid-Pacific Region. Website: https://www.usbr.gov/mp/nepa/nepa_project_details.php?Project_ID=30381 Accessed: April 2019.