

RECLAMATION

Managing Water in the West

Environmental Assessment

City of Fresno School District Water Conservation Project



**U.S. Department of the Interior
Bureau of Reclamation**

May 2017

Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

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

1.1 Background

This Environmental Assessment (EA) examines the potential direct, indirect, and cumulative effects to the environment associated with the Bureau of Reclamation (Reclamation) providing a WaterSMART: Water and Energy Efficiency Grant funding to the City of Fresno (City) for their School District Water Conservation Project. The project would make funding available to three school districts to install high efficiency irrigation systems in order to be more efficient in watering turf at school campuses. The project would take place within the city of Fresno, located in Fresno County, California (Figure 1).

1.2 Need for the Proposal

Large irrigated turf makes up the primary demand of water in Fresno's school districts. Current irrigation systems are hand operated flood irrigation systems or by a site specific timer that are programmed for operation for set durations regardless of weather conditions. Hand operated irrigation systems are turned on in the evening before school staff leaves and is then shut off in the morning when school staff arrives. This method over-irrigates the turf. In addition, many irrigation systems at school sites are over fifty years old and in need of repairs. Implementation of the project would provide new automated high efficiency sprinkler systems with smart controllers that will reduce water usage at the school. Figure 2 identifies seven schools within Fresno to receive the irrigation improvements.

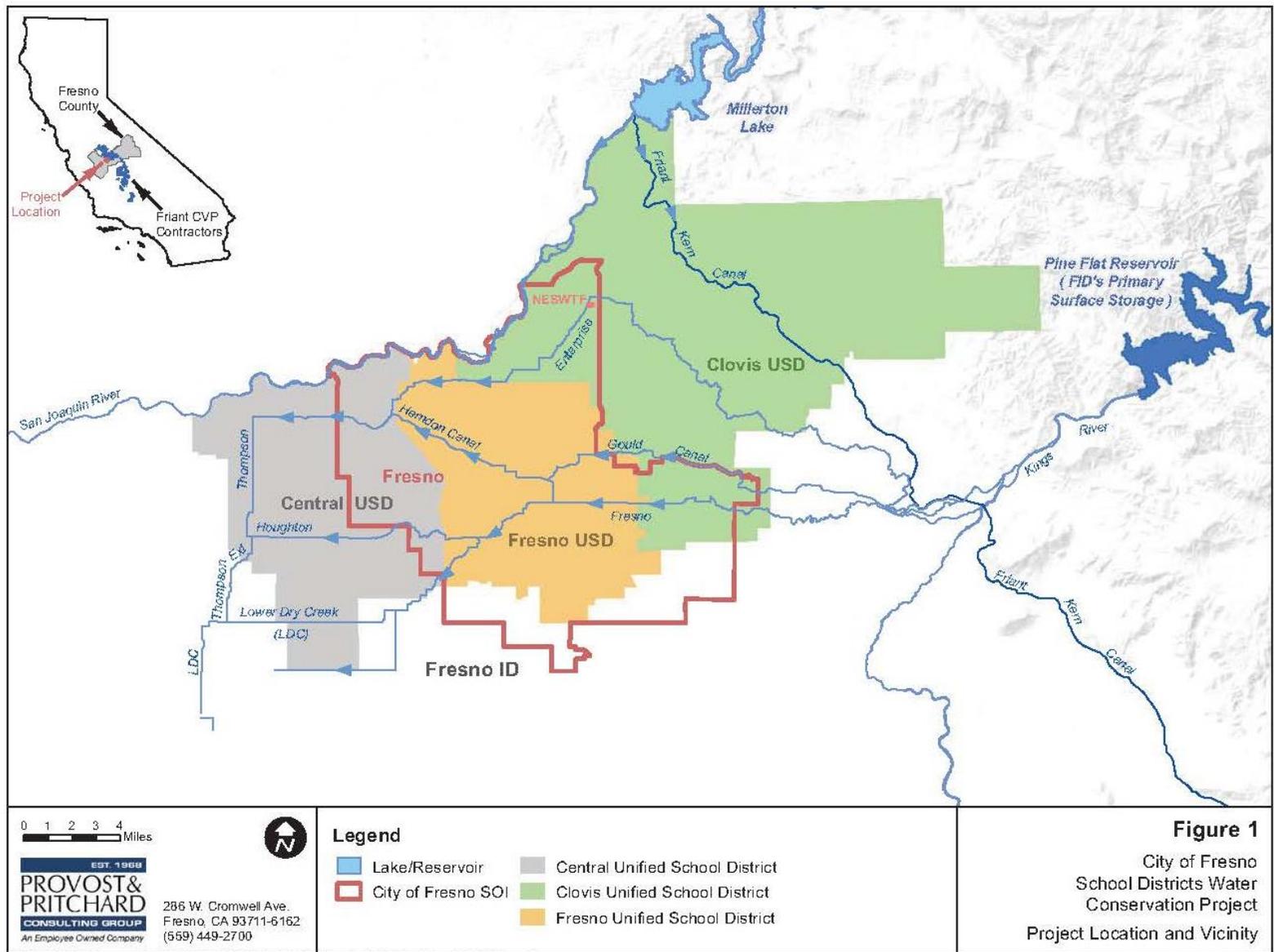
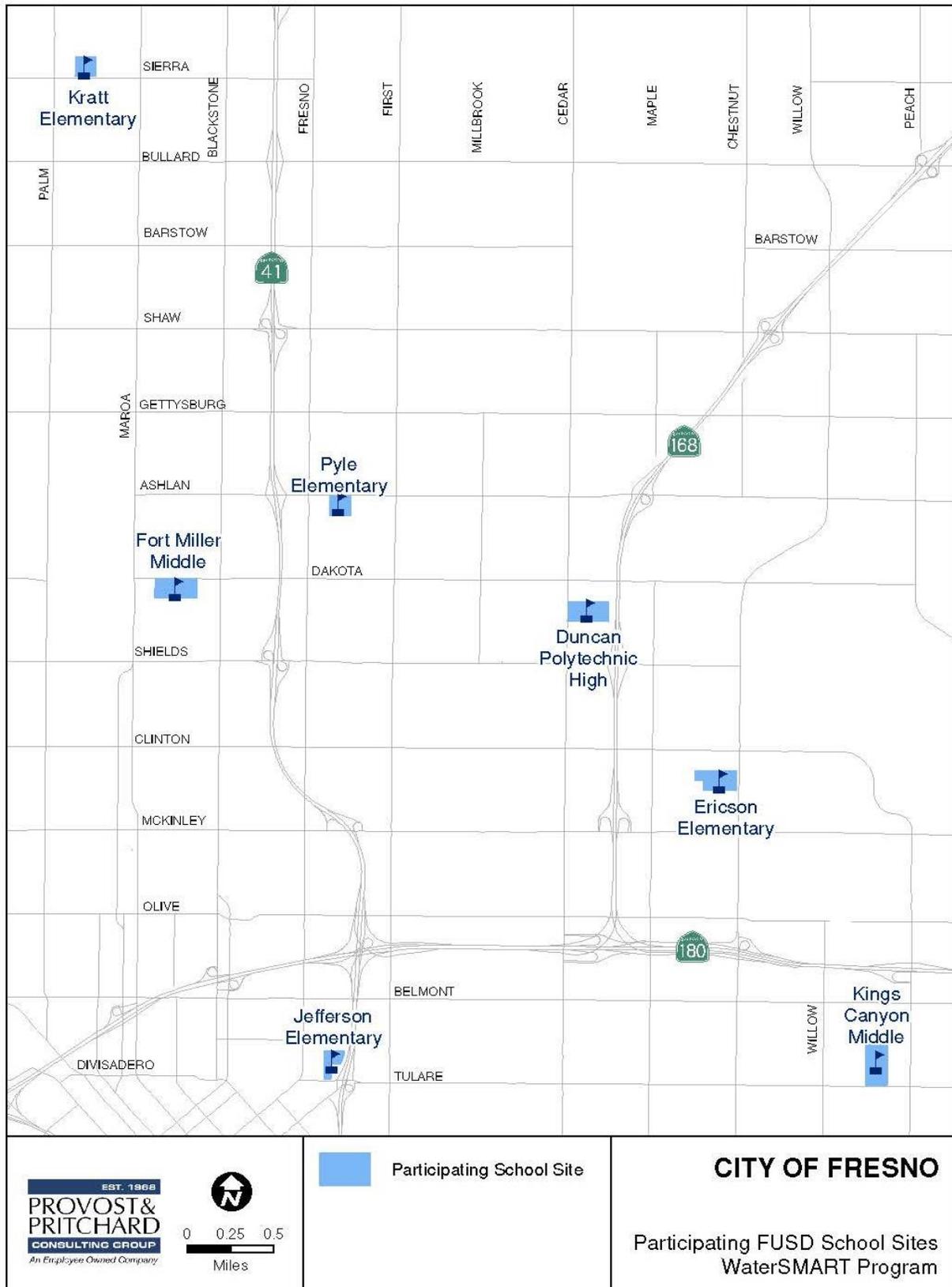


Figure 1. City of Fresno and School Districts Boundaries



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Figure 2. Location of Selected Schools

Section 2 Proposed Action

This EA/IS 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 award grant funds to the City to install high efficiency irrigation systems at seven schools. The City would need to raise additional money from other public or private sources to continue with the project as described. However, if funding cannot be secured, the high efficiency irrigation systems would not be installed and over-irrigation of turf at the schools would continue.

2.2 Proposed Action

Under the Proposed Action, Reclamation would provide \$300,000 from a WaterSMART Grant to Fresno towards the installation of high efficiency irrigation systems at seven schools. Fresno would provide the remaining funds to complete the project.

Access and Staging. Access to the schools would be along existing road ways. Vehicles would be parked on existing paved areas and materials will be stored on-site at the school campus.

Irrigation System Installation. A contractor would install the sprinkler system and smart controllers, and preform startup testing to ensure the system is operational. Construction activities would include trenching and installation of new PVC irrigation piping. Minimal ground disturbing activities would occur from trenching the sprinkler pipeline. Trenches would be dug using a small equipment including a trencher and backhoe. Trenches are anticipated to be approximately 12 inches deep. High efficiency sprinkler heads, irrigation controllers, and irrigation booster pumps would be installed to track water use and apply the correct amount of water needed based on current weather patterns. The irrigation booster pumps would be controlled by variable frequency drives which reduce energy use and ease water hammering on the piping. Table 1 identifies each of the participating schools, location, and the size of the turf area at each school.

Table 1. Schools and amount of turf area

School Site	Location	Turf Area (square feet)
Duncan Polytechnical HS	4330 E Garland Ave	25,500
Kratt Elementary	650 W Sierra Ave	242,000
Ericson Elementary	4774 E Yale Ave	14,000
Fort Miller Middle	1302 E Dakota Ave	18,000
Jefferson Elementary	202 N Mariposa	26,000
Kings Canyon Middle	5117 E Tulare St	22,000
Pyle Elementary	4140 N Augusta St	20,000

Demobilization and Clean Up. Once the installation is completed, the contractor would remove all tools and material from the project area. In addition, all work areas would be cleaned of work-related debris and rubbish. The work areas would be left in a neat and presentable condition.

Construction Schedule. Construction will occur during non-school periods, from June through September 2017. The project is anticipated to be completed in 3 months. Work hours would be limited to 7 a.m. to 7 p.m. six days a week.

2.3 Environmental Commitments and Best Management Practices

As part of the Proposed Action, the following environmental commitments and best management practices would be implemented to avoid and minimize potential effects to the environment:

- There will be no construction work during night time hours.
- Access routes will be along established roads and driveways.
- Ground disturbing work will be limited to dry conditions.

Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environmental resources and the environmental consequences that could result from the Proposed Action and the No Action Alternatives.

3.1 Resources Not Analyzed in Detail

Impacts to the following resources were considered and found to be minor or absent. Brief explanations for their elimination from further consideration are provided below:

3.1.1 Air Quality

The project is located in the San Joaquin Valley Air Basin (air basin) which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The air basin is in non-attainment status for ozone and particulate matter (PM_{2.5}) under both the California and Federal standards, and also is in non-attainment under the California standard for particulate matter (PM₁₀). The air basin is in attainment for all other listed air pollutants under both the California and Federal standards (SJVAPCD 2012).

Improvements to seven schools irrigation system is anticipated to be completed within three months. Ground disturbance would be limited to trenching and installing sprinkler pipeline. Trenches would be dug using a small trenching machine and a backhoe. Three to four workers are anticipated to be needed to perform the work at each school location. Work would be completed within three months. The activity size and vehicle trips are well below the activity levels for small actions screened by the air district for CEQA significance (SJVAPCD 2012) and emissions fall below federal general conformity thresholds.

3.1.2 Cultural Resources

Reclamation initiated consultation on April 10th, 2017, with the California State Historic Preservation Office (SHPO) under Title 54 USC § 306108, commonly known as Section 106 of the NHPA, and its implementing regulations found at 36 CFR Part 800 (Appendix A).

Reclamation has determined that no documented cultural resources were identified within or adjacent to the Area of Potential Effects (APE). The level of effort required to assess the age of each of the seven existing irrigation systems, document as necessary, and develop an adequate historic context to guide National Register of Historic Places (NRHP) eligibility evaluations exceeds the scope of this project. Resultantly, for the purposes of the current undertaking only, Reclamation is treating each school location as eligible for the NRHP under Criterion A for their contribution to the broad pattern of public education in the City of Fresno. Landscaping, including large turf fields, are considered a contributing element to this assumed NRHP eligibility.

Reclamation applied the criteria of adverse effect [36 CFR § 800.5(a)(1)] and the Secretary of the Interior's Standards for the Treatment of Historic Properties [36 CFR § 68.3(a)] to the proposed project and determined that the undertaking will result in no significant alterations to the historic characteristics that may render any of the seven school locations eligible for the NRHP. Reclamation finds no adverse effect to historic properties for this undertaking pursuant to 36 CFR § 800.5(b). SHPO has until May 9th, 2017 (30 days) to review and comment on this determination.

3.1.3 Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in assets that are held in trust by the United States for federally recognized Indian tribes or individuals. The Table Mountain Rancheria is 17 miles from the project area. The proposed action will have no effect on ITAs (Appendix B).

3.1.4 Indian Sacred Sites

Executive Order 13007 (May 24, 1996) requires that federal agencies accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and avoids adversely affecting the physical integrity of such sacred sites. The Proposed Action would not be located on Federal lands and therefore would not affect access to or use of Indian sacred sites.

3.1.5 Environmental Justice

Executive Order 12898 requires each Federal agency to identify and address 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. The project area is located within the Fresno metropolitan area. Reclamation has not identified adverse human health or environmental effects on any population as a result of implementing the Proposed Action. Therefore, implementing the Proposed Action would not have a significant or disproportionately negative impact on low-income or minority individuals.

3.1.6 Biological Resources

A list of federally listed threatened and endangered species and critical habitat was obtained from the U.S. Fish and Wildlife Service on December 21, 2016 from iPaC, a USFWS website. In addition, a search of the California Natural Diversity Database (CNDDDB) was conducted for listed species occurrence documented in City of Fresno. There is no suitable habitat for species that are likely to occur and there is no designated critical habitat near the within the City. Installation of a high efficient irrigation system would occur at seven school campuses in urbanized locations within the City. The proposed action would not affect listed species or their associated habitat.

3.2 Water Resources

Groundwater accounts for 84 percent of the City's potable water supply. The State has determined the City's underlying groundwater basin, the Kings Sub-basin, is in a condition of critical overdraft. Surface water from Reclamation's Central Valley Project (CVP) makes up the remaining 16 percent of the City's potable water supply. The City has a contract for 60,000 acre-feet of Class 1 water from the CVP. The surface water is supplied from Friant Dam (Millerton Lake) and conveyed via the Friant-Kern Canal and then through Fresno Irrigation District canals to the City's water treatment plant. The Class 1 water has been historically fairly reliable; however, the 2013-2014 and 2014-2015 water years the City received a zero percent allocation due to extended statewide drought.

No Action

Under the no action alternative, Reclamation would not award grant funding to the City to install high efficiency irrigation systems. As a result, the City would continue to pump groundwater to flood irrigate large turf areas at the school campuses. City water records indicate the average annual water use is 4 acre feet per acre at each school campus with flood irrigation systems.

Proposed Action

Under the proposed action, high efficiency irrigation systems would be installed at seven school campuses. The new systems will irrigate the turf as needed based on atmospheric conditions. With the implementation of the proposed action, water use for turf irrigation will be reduced. The City anticipates an annual direct savings of 1.33 acre feet per acre at each school campus. School campuses selected to receive the irrigation improvements have a total of 8.4 acres of irrigated turf. Therefore, the City will conserve an estimated 11 acre feet per year (1.33 acre feet/year x 8.4 acre). By reducing the City's water demand at schools, the overall need for the City to pump groundwater will also be reduced.

3.3 Cumulative Impacts

According to CEQ regulations for implementing the procedural provisions of NEPA, a cumulative impact is defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. No individual adverse effect was identified when evaluating the proposed action that would incrementally contribute to any cumulative effect on resources comprising the human environment.

Section 4 Consultation and Coordination

4.1 Agencies and Groups Consulted

Reclamation has consulted with the following regarding the Proposed Action:

- Ronald Samuelian, Provost & Pritchard Consultant Group
- Martin Wendels, City of Fresno
- Julianne Polanco, State Historic Preservation Officer

Section 5 References

San Joaquin Valley Air Pollution Control District. Land Use and CEQA.
http://www.valleyair.org/transportation/ceqa_idx.htm. Accessed December 27, 2016.

California Natural Diversity Database. <http://www.dfg.ca.gov/biogeodata/cnddb>.
Accessed December 21, 2016.

Fresno County General Plan. *October 2000*.

U. S. Fish and Wildlife Service Endangered Species List. <http://ecos.fws.gov/ipac>
Accessed December 21, 2016.

U.S Environmental Protection Agency. *De minimis* levels
<https://www3.epa.gov/airquality/genconform/deminimis.html>.
Accessed December 27, 2016

Appendix A: NHPA, Section 106 Compliance

CULTURAL RESOURCES COMPLIANCE
Division of Environmental Affairs
Cultural Resources Branch (MP-153)

MP-153 Tracking Number: 16-SCAO-178

Project Name: WaterSMART Grant City of Fresno, Fresno Unified School District Water Conservation Project, Fresno County, California

NEPA Document: 17-07-MP

MP 153 Cultural Resources Reviewer: John Fogerty, Archaeologist

NEPA Contact: Jamie LaFevre, Natural Resource Specialist

Determination: No Adverse Effect to Historic Properties

Date: May 15, 2017

Reclamation is proposing to award WaterSMART grant funds to the City of Fresno, Fresno Unified School District to implement water conservation improvements via irrigation system replacements at seven (7) separate public schools, specifically: Kratt Elementary, Pyle Elementary, Fort Miller Middle, Duncan Polytechnic High, Ericson Elementary, Jefferson Elementary, and Kings Canyon Middle. At each location, the manually operated extant irrigation systems will be replaced with improved systems featuring new polyvinyl chloride (PVC) irrigation mainline piping, smart irrigation controllers, and high efficiency sprinkler heads. Construction activities affecting installation of the irrigation system improvements within school grounds will occur via small trencher, backhoe, and hand tools. The excavation necessary to remove and replace extant irrigation infrastructure within these previously disturbed surface areas will not exceed 12 inches in depth.

Reclamation determined that no documented cultural resources have been identified within or adjacent to the project Area of Potential Effects. Due to the nature and scope of the undertaking—with all proposed project activities being entirely limited to developed, previously disturbed areas with little or no ground surface visibility—pedestrian survey was unwarranted. Because the level of effort required to assess the age of each irrigation system and develop an adequate historic context to guide National Register of Historic Places (NRHP) eligibility evaluations exceeds the scope of the project, Reclamation treated each school location as eligible for the NRHP under Criterion A for their contribution to the broad pattern of public education in the City of Fresno (with irrigation systems considered a contributing element to this assumed NRHP eligibility) for the purposes of the current undertaking only.

Since this undertaking is confined to previously disturbed and currently developed areas with existing school facilities, with little to no potential to affect sites of religious or cultural significance to Native Americans, consultations with Indian tribes were considered unnecessary and not undertaken.

Appendix B: ITA Concurrence

**Please send your request to: Kevin Clancy

Date:

Requested by	Jamie LeFevre, x 5035
Fund	14XR0680A1
WBS	RY30180006FIDCA4E
Cost Center	2015200
Region # (if other than MP)	(NA)
Project Name	The City of Fresno School Districts Water Conservation Project
CEC or EA Number	
Project Description	The City of Fresno would make the funding available to its three school districts to install irrigation system improvements that will provide more efficient delivery of water for large irrigated turf and landscaping. The school districts will install efficient sprinkler systems with smart controllers to improve water system efficiency and reduce usage.
*Project Location (Township, Range, Section, e.g., T12 R5E S10, or XY cords)	The City of Fresno is located in the Central San Joaquin Valley of California, approximately 170 miles south of the City of Sacramento (Figure 1)

*Please include map with request, if available.

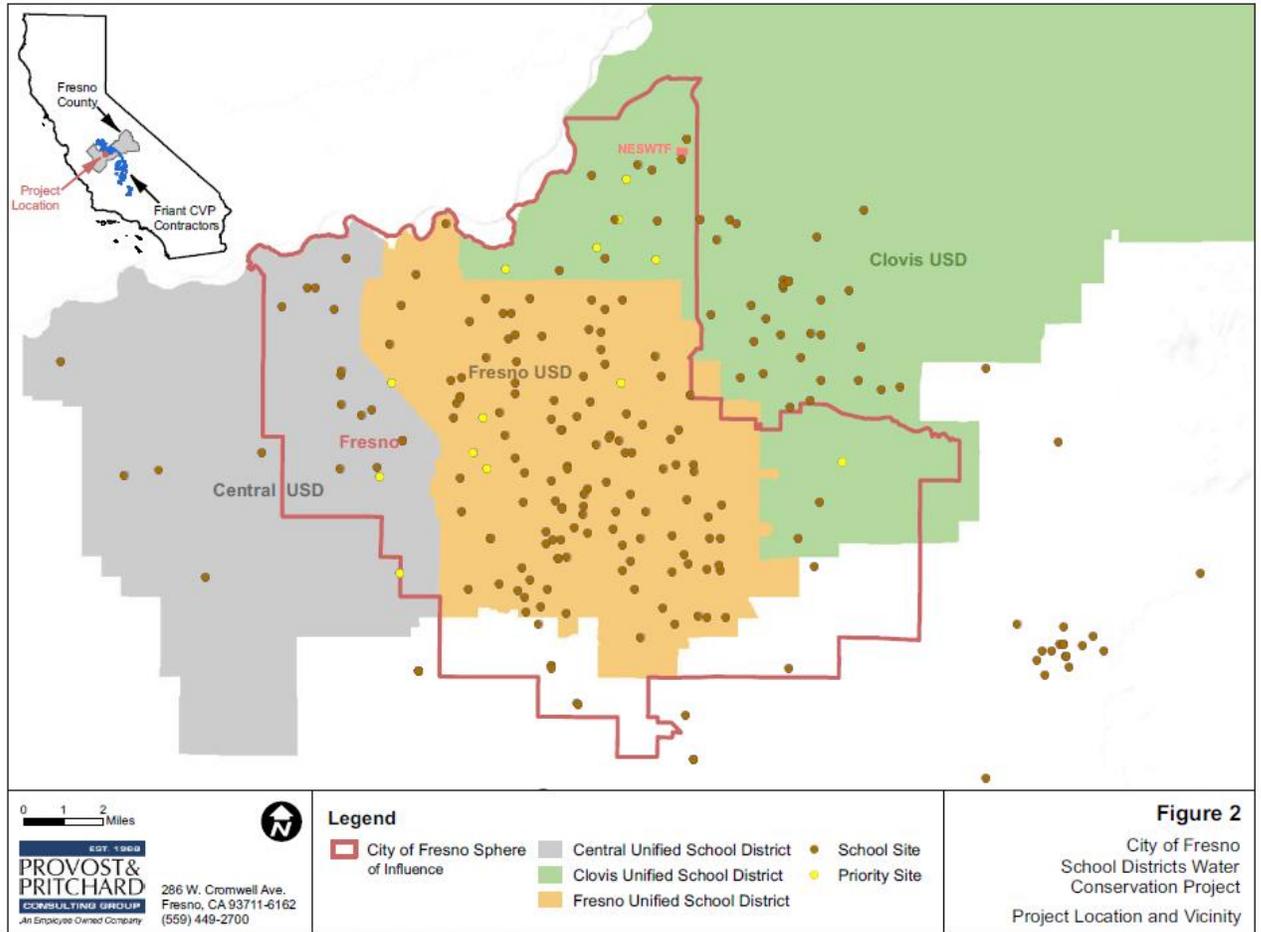


Figure 1. School Sites within the City of Fresno Boundaries

ITA Determination:

The closest ITA to the proposed City of Fresno School Districts Water Conservation Project is Table Mountain Rancheria which is 17 miles north of the project area. (See attached image).

Based on the nature of the planned work it **does not** appear to be in an area that will impact Indian hunting or fishing resources or water rights nor is the proposed activity on actual Indian lands. It is reasonable to assume that the proposed action **will not** have any impacts on ITAs.

K.Clancy

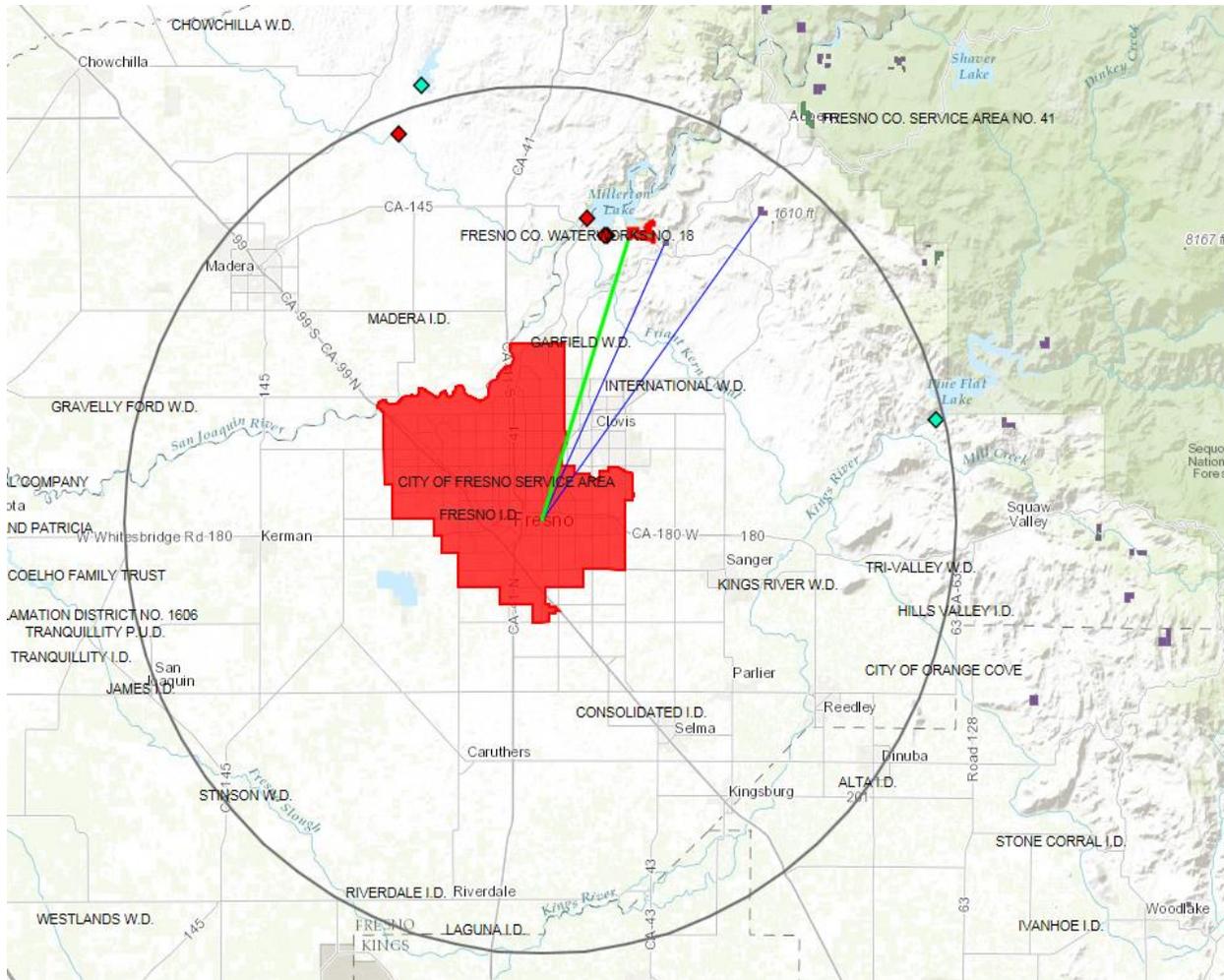
Kevin Clancy

12/21/2016

Signature

Printed name of approver

Date



Close App

This application locates Native American Lands trust assets within the selected search radius and lists the results with distances.

Step 1. Select a search radius (miles)

25 ▾

Step 2. Longitude and Latitude

If you CLICK on the map, the coordinates for the location will be inserted below. Or, you can type them manually.

Longitude:
-119.75477

Latitude:
36.74783

Step 3. Find closest Native American Lands

Search

Distance to closest native american land: 17.14 miles
Name: Table Mountain
Tribe: Table Mountain Rancheria

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