

RECLAMATION

Managing Water in the West

FINDING OF NO SIGNIFICANT IMPACT

Merced Irrigation District Garibaldi/McCoy Laterals Water Conservation Project

FONSI-09-118

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

In accordance with section 102(2)(c) of the National Environmental Policy Act of 1969, as amended, the South-Central California Area Office of the Bureau of Reclamation (Reclamation), has determined that the approval to partially fund Merced Irrigation District's Garibaldi and McCoy Laterals Water Conservation Project is not a major federal action that will significantly affect the quality of the human environment and an Environmental Impact Statement is not required. This Finding of No Significant Impact (FONSI) is supported by Reclamation's Final Environmental Assessment (EA) number EA-09-118, *Merced Irrigation District's Garibaldi and McCoy Laterals Water Conservation Project*, and is hereby incorporated by reference.

Reclamation provided the public with an opportunity to comment on the Draft EA and Draft FONSI (09-118) during a 15-day public comment period, from September 27, 2011 through October 11, 2011. No comments were received.

Background

Reclamation is a participating agency in the CALFED Bay-Delta Program which includes strategies to address ecosystem health, water supply reliability and water quality within the California Bay-Delta.

As a participating agency, Reclamation promotes the goals, objectives, and missions of the CALFED Program. The goals and objectives include but are not limited to: (1) reduction of existing irrecoverable losses including increasing the overall volume of available water; (2) achieve multiple state-wide benefits; (3) preserve local flexibility; and (4) build on existing water use efficiency programs. Through the Water Conservation Grant Program, participants are invited to request funding assistance for eligible projects that demonstrate the above mentioned goals and objectives. Projects are selected through a competitive process and priority consideration is given to those projects that achieve the objectives of the CALFED Bay-Delta Program on a state-wide basis (as opposed to just a local basis). Reclamation will fund up to 50 percent of an approved project.

Reclamation has determined Merced Irrigation District (MID) eligible for a CALFED Water Conservation Grant to conserve water and improve their water conveyance system and MID has requested a \$1,012,867 match in funding from Reclamation (total project estimated cost is \$2,499,867).

The MID provides water, power, and recreation to portions of Eastern Merced County, and its service area is generally located southwest of the City of Livingston, California. MID's annual water supply from the Merced River is approximately 450,000 acre-feet per year (AF/Y). MID is a conjunctive-use district and surface water diversions fluctuate appreciably between wet and critically-dry years. MID facilities include 825 miles of canals and laterals, of which 620 miles are dirt-lined, 108 miles are concrete-lined and 97 miles are piped. Additionally, MID owns and operates 239 deep irrigation wells, of which 170 are considered currently active, and have a maximum capacity of 182,900 acre-feet (AF) yield.

Total seepage loss for MID's system is estimated at approximately 87,000 AF (average) each irrigation season. The Garibaldi Lateral, Garibaldi Lateral "A" (an extension of the main Lateral), and the McCoy Lateral, the subjects of the Proposed Action, were originally constructed in the early 1900's. The aforementioned laterals have not had a major renovation in recent years and have sections of broken and dilapidated concrete lining, as such, they are subject to an estimated 4,500 AF per year (AF/Y) of seepage through their canal banks. Currently, through both direct canal bank seepage and excess operational water (approximately 1,100 AF) put into the Garibaldi canal (which then spills into the Merced River) from the Garibaldi canal, MID estimates a loss of approximately 5,600 AF on an annual basis from this portion of their conveyance system. Additionally, MID does not have adequate debris/trash screening and flow data collection facilities on these portions of their water conveyance systems.

Environmental Assessment (EA) 09-118 has been prepared to examine the potential environmental impacts resulting from the proposed improvements to the Garibaldi and McCoy lateral canals and the installation of debris/trash screens and Supervisory Control and Data Acquisition (SCADA) system.

Reclamation proposes to award MID with a CALFED Water Conservation Grant to assist with the lateral improvements, the installation of traveling debris/trash screens and a new SCADA system. Generally, the Proposed Project will involve re-routing water (currently operationally spilled) from the Garibaldi Lateral to the McCoy Lateral by extending the existing Garibaldi Lateral "A" to connect into the McCoy Lateral. The lower portion of the Garibaldi Lateral downstream of the Garibaldi Lateral "A" will be converted to pipe (pipelined to reduce seepage from the unlined open channel. Portions of the McCoy Lateral will be widened and lined with a concrete liner, allowing the McCoy Lateral to accept the additional flow from the Garibaldi Lateral (via the Garibaldi Lateral "A") which will reduce operational spill and seepage losses. Also, the project would involve installing traveling (i.e. continuously moving) trash and debris screens at the head of two pipelines to prevent blockage of flow into the pipelines and installing several SCADA sites on the subject facilities to enhance efficiency and data collection.

Findings

Reclamation's determination that implementation of the Proposed Action will result in no significant impact to the quality of the human environment is supported by the following:

Water Resources

The Proposed Action will allow for a more efficient distribution of MID's surface water to the service area, reduce the amount of water lost to seepage or spills and potentially reduce the amount of groundwater pumped by local farmers. An equivalent amount of water to the estimated 5,600 AF which currently is lost to seepage and operational spill from the canals, will no longer be available to recharge the Merced groundwater subbasin underlying the canals' footprints. However, the Proposed Action will enable MID to conserve water for downstream users (due to improved efficiency) or to store that water in Lake McClure or other storage areas by not requesting the additional flows. Ground disturbance during construction will not result in substantial erosion or siltation because of implementation of water quality environmental protection measures mentioned below in Table 1. Therefore, the Proposed Action will have no

adverse impacts on water resources and will potentially have a slight beneficial impact on groundwater resources due to a decrease in pumping and surface water resources due to potentially greater storage in MID's storage facilities and overall improvement in system efficiency.

Land Use

Land use will remain the same as described in the affected environment of EA 09-118 because all proposed improvements will occur within the footprint of existing irrigation features and Right-of-Way. Construction and placement of equipment and ground disturbance will be temporary and thus will not affect land use. The installation or modification of the lateral conveyance facilities will not contribute to changes in land use. The lands will remain in a typical agricultural cropping pattern as is typical for the soils in the service area. No lands would be fallowed or converted from a non-agricultural use to an agricultural use. The conservation and increase in efficiency of the water conveyance system for MID's agricultural customers will help MID to maintain the existing land uses and will therefore have a slight beneficial impact on land use due to the Proposed Action.

Biological Resources

As the Proposed Action will be limited to lining or piping open laterals and will not involve conversion of habitat to developed infrastructure or other land uses, there will be no loss of potential or actual habitat of raptors or the valley elderberry longhorn beetle (VELB), both of which have the potential to occur in the area of construction.

Impacts to individual raptors will be minimized so as to avoid any take that could violate the Migratory Bird Treaty Act. The measures in the Table 1 below will ensure that raptors that could potentially occur near the project area (burrowing owls and Swainson's hawks) will be adequately protected.

The Proposed Action will involve enlarging and lining the McCoy Lateral. In the vicinity of the blue elderberry shrubs, which are habitat for the VELB, the lateral will be enlarged westerly, leaving the east wall of the lateral in place in the vicinity of the blue elderberry shrubs. The wall of the lateral is a thin layer of concrete covering the base of a trapezoidal trench. This concrete layer can readily be lifted off the soil without disturbance to the soil and roots below. The work will be accomplished without touching the shrubs or excavating any soil near the shrub cluster. A full list of measures to avoid adverse direct impacts to VELB and its habitat is shown in Table 1. The McCoy Lateral is already lined in this particular area, so the Proposed Action will not reduce seepage where it could be used by the elderberry shrubs. Therefore there will be no adverse impacts to special-status plants or wildlife.

As only 1,100 AF/Y of spilled operational water spread out over the nine-month irrigation season, will be kept from flowing into the Merced River (by rerouting it into the McCoy lateral for reuse), which is a small amount of water in comparison to the volume in the Merced River, there will be no impacts on Essential Fish Habitat for chinook salmon.

Cultural Resources

Under the Proposed Action alternative, there will be no impacts to historic properties since no historic properties were identified as part of the project. Conditions related to historic properties will remain the same as existing conditions. As described in Table 1, In the event that cultural resources or human remains are identified during the implementation of this project there may be additional considerations pursuant to Section 106 of the NHPA. If inadvertent discoveries of cultural resources or human remains occur during project implementation, work shall temporarily stop and Reclamation cultural resources staff shall be contacted immediately. Reclamation entered into consultation with the State Historic Preservation Officer on May 11, 2011 and that consultation concluded as per the “no historic properties affected” determination in Appendix C of EA 09-118.

Indian Trust Assets (ITA)

No ITA are involved in the Proposed Action, therefore the Proposed Action will not affect ITA. The nearest ITA is the Tuolumne reservation, approximately 41 miles north northeast of the project location.

Indian Sacred Sites

Since no known Indian sacred sites have been identified, the Proposed Action will not impact known Indian sacred sites and/or prohibit access to and ceremonial use of this resource.

Environmental Justice

To the extent that water supply and reliability is improved in MID’s service area, it will serve to benefit the surrounding rural agricultural based communities that rely upon MID for water by helping to stabilize their supply, which will have a slight beneficial effect on employment (through increased stability) of minority or low-income populations in the affected area.

Socioeconomic Resources

The Proposed Action will increase water reliability and supply for MID. As a result, the viability of farming practices will also benefit slightly from a more reliable irrigation water supply. Construction of the Proposed Action will temporarily increase jobs by a small amount. Therefore, there will be a slight beneficial impact to socioeconomics.

Air Quality

Emissions from construction will be short-term and operation of electrically-driven pumps will be very infrequent. Comparison of the estimated Proposed Action emissions with the thresholds for Federal conformity determinations indicates that emissions will be below these thresholds. Accordingly, construction and operation under the Proposed Action will not result in significant impacts to air quality beyond Federal thresholds.

Global Climate

The Proposed Action will involve short-term impacts consisting of emissions during construction and long-term impacts are attributable to project operations and will involve the generation of electrical energy to power the electric motor pump drivers. Short-term impacts will consist of CO₂ emissions during construction, which have been estimated to be 1,056 metric tons/year, and is still well-below the threshold for annually reporting greenhouse gas (GHG) emissions (25,000

metric tons/year), which is a surrogate for a threshold of significance. As a result, the Proposed Action will result in no significant impacts to the global climate.

Cumulative Impacts

Biological resources will continue to be affected by other types of activities that occur in the same general area, such as low levels of ground disturbance from ongoing facilities maintenance of MID facilities and disturbance and potential dust from harvesting of crops in adjacent agricultural fields, but are not directly related to the Proposed Action. Impacts to biological resources from the implementation of the Proposed Action will occur temporarily and during construction activities only. The Proposed Action, when added to other similar past, existing, and future actions, will not contribute to cumulative adverse impacts to biological resources since impacts will occur only temporarily during construction and operations will not introduce additional effects to biological resources.

While the emissions of one single project will not cause adverse impacts to the global climate, GHG emissions from multiple projects throughout the world could result in an adverse impact to global climate change. Full build-out of the overall Garibaldi and McCoy Lateral Project could contribute to global climate change impacts due to emissions of CO₂ during construction. However, the estimated CO₂ emissions from the Proposed Project are estimated at approximately 1,056.23 tons/year and is well below the 25,000 metric tons per year threshold for reporting GHG emissions. As a result, the Proposed Action is not expected to significantly contribute to cumulative adverse impacts to global climate change.

The Proposed Action will not contribute to cumulative adverse impacts to air quality since construction activities are short-term and operations will not result in emissions. As described in Table 4 of EA 09-118, the estimated emissions from full build-out of the Garibaldi and McCoy Lateral Project will still be below federal conformity thresholds.

The Proposed Action will result in increased efficiency of MID's canal conveyance components, the Garibaldi and McCoy Lateral canals, and the overall MID diversion system at Lake McClure. As a result of improved water resource conditions, there could be minor beneficial cumulative impacts in regard to socioeconomic resources and minority or disadvantaged populations. The Proposed Action will not affect cultural resources, ITA, land uses, and Indian sacred sites; therefore, it is not expected to contribute to cumulative impacts on these resources.

Table 1. Environmental Protection Measures*	
Resource	Protection Measure
Water Quality	To minimize potential effects to water quality due to ground disturbance and the potential for erosion and siltation during discharge of stormwater runoff (potentially into the Merced River), if construction exceeds more than 1 acre, coverage under the Clean Water Act (CWA) Section 402 National Pollutant Discharge Elimination System (NPDES) General Construction permit will be obtained and a Stormwater Pollution Prevention Plan will be prepared and implemented.
Biological Resources	Pre-construction surveys for burrowing owls along the alignment will be conducted, according to the California Department of Fish and Game (DFG) guidelines (DFG 1995, Appendix C) if construction commences between

	February 1 and August 31. The surveys will include the ruderal areas along the roads that the alignment follows, and all areas of open grassland visible from the alignment. If occupied burrows are found, a qualified biologist shall determine the need (if any) for temporal restrictions on construction.
Biological Resources	A pre-construction nest survey for avian raptors and other resident and migratory birds shall be conducted prior to project construction if any heavy equipment operations are to occur during the nesting season (February 15 through September 15). All trees, vegetation, and small mammal burrows on the site shall be inspected for nests and birds (using the guidelines from California Department of Fish and Game [CDFG] (1995) for western burrowing owls and CDFG (DFG 1994) for Swainson's hawks). If any occupied nests are observed, heavy equipment operations shall be minimized or avoided until the young have fledged and nesting has ceased (using the guidelines from CDFG (1995) for western burrowing owls and CDFG (1994) for Swainson's hawks). If this is not feasible, the US Fish and Wildlife Service (USFWS) and CDFG will need to be contacted for guidance on how to proceed. The USFWS will prescribe specific mitigation dependent upon the particular species involved and the manner in which heavy equipment operations are to be conducted.
Biological Resources	Avoidance measures during construction will include: avoiding physical disturbance to the blue elderberry shrubs will be achieved first through an "Environmental Awareness Presentation" presented to the work crew by a qualified biologist. Any blue elderberry shrubs or clusters of shrubs must be separated from limits of work by orange safety fencing to alert workers of the environmentally sensitive area and to prevent physical disturbance to the shrub cluster; a qualified biologist will oversee this fencing. Finally, the qualified biologist will be present to direct the work crews and oversee the work within 20 feet of the elderberry shrub cluster. Additionally, work in the vicinity of the shrubs must be scheduled between July 1 and April 1 to avoid potentially adverse impacts to any adult valley elderberry longhorn beetles that may have emerged and be present on the leaves or stems of the elderberry shrubs.
Cultural Resources	In the event that cultural resources or human remains are identified during the implementation of this project there may be additional considerations pursuant to Section 106 of the NHPA. If inadvertent discoveries of cultural resources or human remains occur during project implementation, work shall temporarily stop and Reclamation cultural resources staff shall be contacted immediately.
*Protection measures for Swainson's hawk and burrowing owls in further detail can be found in Appendix B.	

RECLAMATION

Managing Water in the West

Final Environmental Assessment

Merced Irrigation District Garibaldi/McCoy Laterals Water Conservation Project

EA-09-118



**U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South-Central California Area Office
Fresno, California**

October 2011

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to 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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List of Acronyms and Abbreviations

APE	Area of Potential Effect
AF/Y	Acre Feet per Year
CAA	Clean Air Act
CCIC	Central California Information Center
CFR	Code of Federal Regulations
CO ₂	Carbon dioxide
CWA	Clean Water Act
DWR	California Department of Water Resources
EA	Environmental Assessment
EPA	Environmental Protection Agency
FWCA	Fish and Wildlife Coordination Act
ESA	Endangered Species Act
GHG	greenhouse gases
ITA	Indian Trust Assets
MBTA	Migratory Bird Treaty Act
mg/m ³	Milligram per cubic meter
MID	Merced Irrigation District
M&I	Municipal and Irrigation
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
PM ₁₀	Particulate matter between 2.5 and 10 microns in diameter
PPM	Parts per million
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe
Reclamation	Bureau of Reclamation
ROG	Reactive Organic Gases
SCADA	Supervisory Control and Data Acquisition
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
U.S.C.	United States Code
VOC	Volatile Organic Compounds
µg/m ³	Microgram per cubic meter

Section 1 Purpose and Need for Action

1.1 Background

The Bureau of Reclamation Mid-Pacific Region (Reclamation) is a participating agency in the CALFED Bay-Delta Program which includes strategies to address ecosystem health, water supply reliability and water quality within the California Bay-Delta.

As a participating agency, Reclamation promotes the goals, objectives, and missions of the CALFED Program. The goals and objectives include but are not limited to: (1) reduction of existing irrecoverable losses including increasing the overall volume of available water; (2) achieve multiple state-wide benefits; (3) preserve local flexibility; and (4) build on existing water use efficiency programs. Through the Water Conservation Grant Program, participants are invited to request funding assistance for eligible projects that demonstrate the above mentioned goals and objectives. Projects are selected through a competitive process and priority consideration is given to those projects that achieve the objectives of the CALFED Bay-Delta Program on a state-wide basis (as opposed to just a local basis). Reclamation would fund up to 50 percent of an approved project.

Reclamation has determined Merced Irrigation District (MID) eligible for a CALFED Water Conservation Grant to conserve water and improve their water conveyance system and MID has requested for a \$1,012,867 match in funding from Reclamation (total project estimated cost is \$2,499,867).

The MID provides water, power, and recreation to portions of Eastern Merced County, and its service area is generally located southerly and easterly of the City of Livingston, California (Figure 1).

1.2 Purpose and Need

Total seepage loss for MID's system is estimated at approximately 87,000 acre-feet (AF) (average) each irrigation season. The Garibaldi Lateral, Garibaldi Lateral "A" (an extension of the main Lateral), and the McCoy Lateral, the subjects of the Proposed Action, were originally constructed in the early 1900's. The aforementioned laterals have not had a major renovation in recent years and have sections of broken and dilapidated concrete lining, as such, they are subject to an estimated 4,500 AF per year (AF/Y) of seepage through their canal banks. Currently, MID conveys excess operational water (approximately 1,100 AF) to combat seepage and ensure proper conveyance through the Garibaldi lateral system. MID estimates a loss of approximately 5,600 AF/Y from direct canal bank seepage and spill of the excess operational water put into the Garibaldi canal (which then spills into the Merced River).

In order to improve efficiency, MID needs to reduce the amount of excess operational irrigation water in the existing Garibaldi Lateral from spilling into the Merced River, redirect said water to

the McCoy Lateral for use by MID's customers, and reduce seepage from both lateral canals (Figure 2).

There is also a need to improve MID's distribution system efficiency through the incorporation of a supervisory control and data acquisition (SCADA) system. Finally, there is a need to improve MID's distribution system maintenance efficiency through the incorporation of traveling trash/debris screens.

The purpose of the Proposed Action is to provide partial funding for these efficiency improvements.

1.3 Scope

Reclamation's approval is limited to the appropriations of grant money, which is administrative in nature; however, the grant money would be used to partially fund the construction of the Proposed Action and is the focus of this Environmental Assessment (EA). Therefore, this EA will analyze the effects on the environment as a result of extending an existing pipelined lateral, pipelining an existing open irrigation lateral, enlarging and relining existing concrete lined irrigation laterals, redirecting excess flows from the Garibaldi Lateral into the McCoy Lateral, and installing debris/trash screens and SCADA monitoring sites for better water management in MID's service area. Construction is expected to occur over approximately 5 months, with as much as possible occurring during the non-irrigation season. Because the debris/trash screens and the SCADA systems would be installed on existing concrete structures and would require very little ground disturbance, this EA focuses on the effects of the canal improvements construction.

1.4 Potential Issues

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential direct, indirect, and cumulative effects to the following resources:

- Water Resources
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trusts Assets
- Indian Sacred Sites
- Environmental Justice
- Socioeconomic Resources
- Air Quality
- Global Climate

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 that would result from implementation of the Proposed Action. For the purposes of this EA, the term “proposed project” refers to the physical project (i.e. construction and operation), while the term “Proposed Action” refers to the federal action (i.e. carrying out partial funding of MID’s Proposed Project).

Absent assistance from federal funding, the Proposed Project would be delayed until such time that MID could receive another grant or acquire funding through local and/or State funding sources. The No Action Alternative that would occur without a grant could have two possible scenarios: A) no change from existing conditions as the project would not be built; B) no change from existing conditions for at least a period of time, where the length of time is unknown, after which the project would be built as described in Section 2.2 below and the impacts analyzed in Section 3 of this EA would be realized. Any other subsequent actions caused by scenario B of the No Action Alternative not already covered under Section 2.2 of this EA is speculative at best, is outside the scope of this EA, and may require additional environmental analysis. As a result, scenario A of the No Action Alternative will be analyzed from this point forward in order to reduce repeating information since Scenario B mirrors the Proposed Action (but at a later date).

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not award a CALFED Water Conservation Grant for the Proposed Project to MID. MID would continue operating as it does today. Excess operational water would continue to spill into the Merced River.

2.2 Proposed Action

Reclamation proposes to award MID with a CALFED Water Conservation Grant to assist with the lateral improvements, the installation of traveling debris/trash screens and a new SCADA system. Generally, the Proposed Project would involve re-routing water (currently operationally spilled) from the Garibaldi Lateral to the McCoy Lateral by extending the existing Garibaldi Lateral “A” to connect into the McCoy Lateral. The lower portion of the Garibaldi Lateral downstream of the Garibaldi Lateral “A” would be converted to pipe (pipelined to reduce seepage from the unlined open channel. Portions of the McCoy Lateral would be widened and lined with a concrete liner, allowing the McCoy Lateral to accept the additional flow from the Garibaldi Lateral (via the Garibaldi Lateral “A”) (Figure 2) which would reduce operational spill and seepage losses. The Proposed Project would include the following specific design and construction details:

- Approximately 5,700 linear-feet of the lower Garibaldi Lateral would be pipelined in a 42-inch diameter reinforced concrete pipeline (RCP) assembly and approximately 1,200 linear-feet would be pipelined in a 24-inch diameter polyvinyl chloride (PVC) pipe assembly. The 42-inch RCP would be placed in the same approximate alignment as the existing open channel. This portion of the current open channel bisects a land owner's property. The proposed 24-inch diameter PVC pipe would follow the northerly boundary of the property, which would reduce the required length of the pipeline by approximately 250-linear feet (compared to the current canal length). Construction (excavation) of trenches would be required for installation of the RCP/PVC pipe assemblies. The bottom width of the trench for the 42-inch diameter RCP would be approximately 7.5-feet wide and the top of the open trench would have a width approximately 27-feet wide. The bottom width of the trench for the 24-inch diameter RCP would be approximately 5-feet wide and the top of the open trench would have a width of approximately 23-feet. The existing crossing (pipeline siphon) at River Road would be replaced with a similar structure as part of the Proposed Action. The existing soil in the lateral embankment and the pipeline trench would be used to backfill the existing open lateral and trench of the new pipeline. Although no haul-in backfill material is anticipated, if extra backfill material is required it would be obtained from an existing, licensed materials operation. The operational discharges that would be spilled into the Merced River from said lateral would be backed up and redirected into the existing branching dead-end sublateral (Garibaldi Lateral "A" (Lateral A)).
- The existing Garibaldi Lateral "A" consists of approximately 575 linear feet of 30-inch diameter RCP and approximately 1,800 linear feet of 48-inch diameter RCP. The construction includes replacing the existing 575-linear feet of 30-inch diameter RCP with 48-inch diameter RCP and extending the lateral in a 42-inch diameter RCP assembly from its current termination to the McCoy Lateral, approximately 3,195-linear feet. A new roadway crossing would be placed at Magnolia Avenue and Westside Blvd. Construction (excavation) of trenches would be required for installation of the RCPs. The bottom width of the trench for the 42-inch diameter RCP would be approximately 7.5-feet and the top of the open trench would have a width of approximately 34.5-feet. The finished elevation would be approximately the same elevation as the existing ground. The existing soil in the portion of the Garibaldi Lateral embankment to be pipelined and the soil displaced by the new pipeline in the pipeline trench would be used to backfill the trench of the new pipeline. Although no haul in backfill material is anticipated, if extra backfill material is required it would be obtained from an existing, licensed materials operation;
- The McCoy lateral component includes widening and lining approximately 14,300-linear feet of existing open channel. The existing open channel consists of old, broken lining and has a bottom width ranging from 3- to 5-feet (photos in Appendix A). The proposed open channel would have a bottom width of 8 feet and a top width of 20-feet. The open channel would have up to 16-foot wide canal banks for operations and maintenance and a 2:1 outside slope to natural grade. The soil material excavated for the widening of the canal would be used on the project site to reshape the existing canal embankments and

contour the canal roadways, therefore it is estimated that no material would be required to be hauled off the project site;

- Installing traveling (i.e. continuously moving) trash and debris screens at the head of two pipelines to prevent blockage of flow into the pipelines. These would be pre-manufactured offsite, hauled into the area by truck, lowered in by crane or boom truck and bolted onto the existing or new concrete foundations by hand; and
- Installing several SCADA sites on the subject facilities to enhance efficiency and data collection. There would be three sites, all powered by solar power panels mounted at the top of each SCADA unit or powered by electricity via existing power lines in the area.

2.2.1 Environmental Protection Measures

MID would implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (Table 1). Environmental consequences for resource areas assume the measures specified would be fully implemented. Copies of reports shall be submitted to Reclamation.

Table 1. Environmental Protection Measures*	
Resource	Protection Measure
Water Quality	To minimize potential effects to water quality due to ground disturbance and the potential for erosion and siltation during discharge of stormwater runoff (potentially into the Merced River), if construction exceeds more than 1 acre, coverage under the Clean Water Act (CWA) Section 402 National Pollutant Discharge Elimination System (NPDES) General Construction permit would be obtained and a Stormwater Pollution Prevention Plan would be prepared and implemented.
Biological Resources	Pre-construction surveys for burrowing owls along the alignment would be conducted, according to the California Department of Fish and Game (DFG) guidelines (DFG 1995, Appendix C) if construction commences between February 1 and August 31. The surveys would include the ruderal areas along the roads that the alignment follows, and all areas of open grassland visible from the alignment. If occupied burrows are found, a qualified biologist shall determine the need (if any) for temporal restrictions on construction.
Biological Resources	A pre-construction nest survey for avian raptors and other resident and migratory birds shall be conducted prior to project construction if any heavy equipment operations are to occur during the nesting season (February 15 through September 15). All trees, vegetation, and small mammal burrows on the site shall be inspected for nests and birds (using the guidelines from California Department of Fish and Game [CDFG] (1995) for western burrowing owls and CDFG (DFG 1994) for Swainson's hawks). If any occupied nests are observed, heavy equipment operations shall be minimized or avoided until the young have fledged and nesting has ceased (using the guidelines from CDFG (1995) for western burrowing owls and CDFG (1994) for Swainson's hawks). If this is not feasible, the US Fish

	and Wildlife Service (USFWS) and CDFG would need to be contacted for guidance on how to proceed. The USFWS would prescribe specific mitigation dependent upon the particular species involved and the manner in which heavy equipment operations are to be conducted.
Biological Resources	Avoidance measures during construction would include: avoiding physical disturbance to the blue elderberry shrubs would be achieved first through an "Environmental Awareness Presentation" presented to the work crew by a qualified biologist. Any blue elderberry shrubs or clusters of shrubs must be separated from limits of work by orange safety fencing to alert workers of the environmentally sensitive area and to prevent physical disturbance to the shrub cluster; a qualified biologist would oversee this fencing. Finally, the qualified biologist would be present to direct the work crews and oversee the work within 20 feet of the elderberry shrub cluster. Additionally, work in the vicinity of the shrubs must be scheduled between July 1 and April 1 to avoid potentially adverse impacts to any adult valley elderberry longhorn beetles that may have emerged and be present on the leaves or stems of the elderberry shrubs.
Cultural Resources	In the event that cultural resources or human remains are identified during the implementation of this project there may be additional considerations pursuant to Section 106 of the NHPA. If inadvertent discoveries of cultural resources or human remains occur during project implementation, work shall temporarily stop and Reclamation cultural resources staff shall be contacted immediately.
*Protection measures for Swainson's hawk and burrowing owls in further detail can be found in Appendix B.	

Figure 1. Proposed Project Location

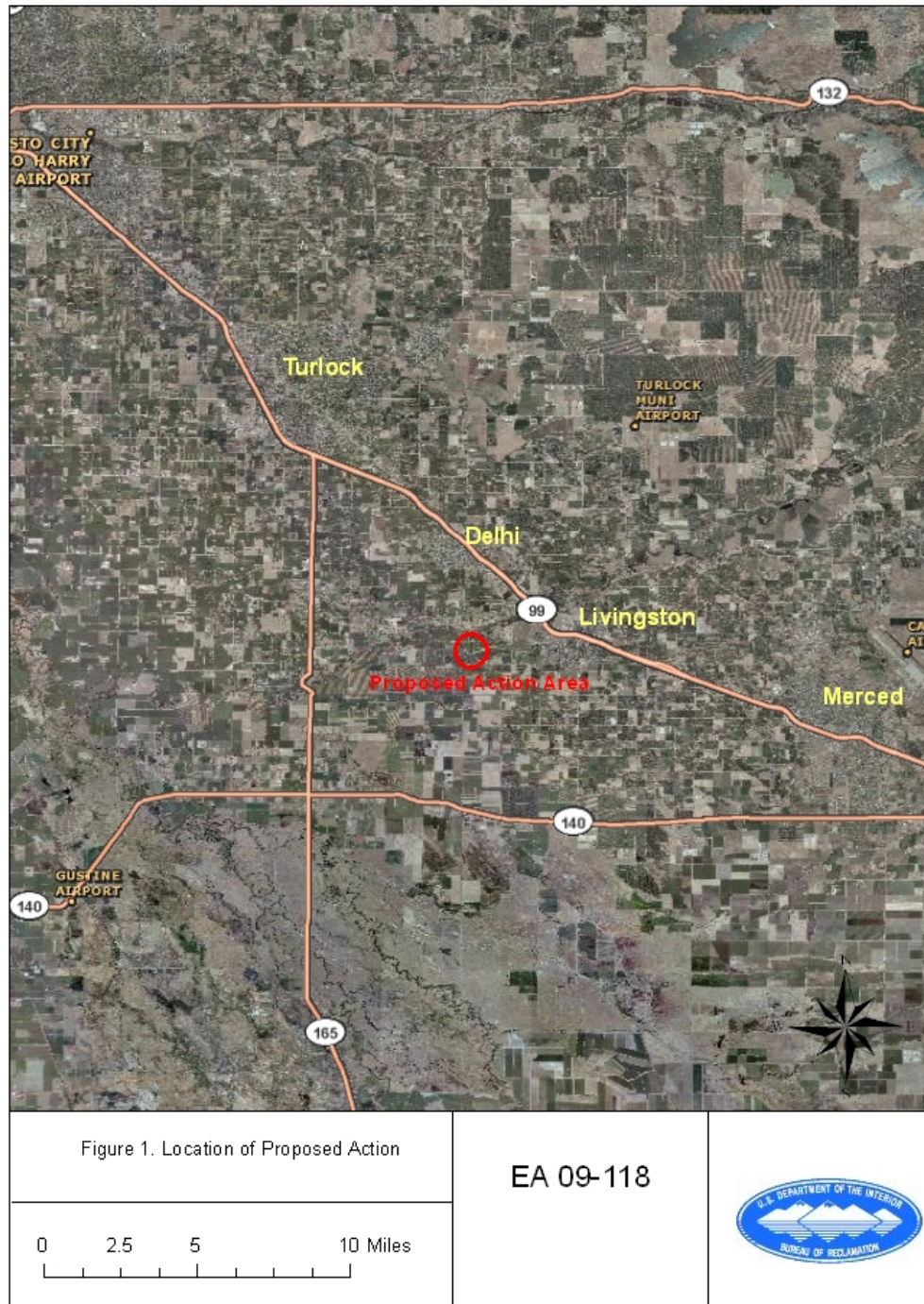
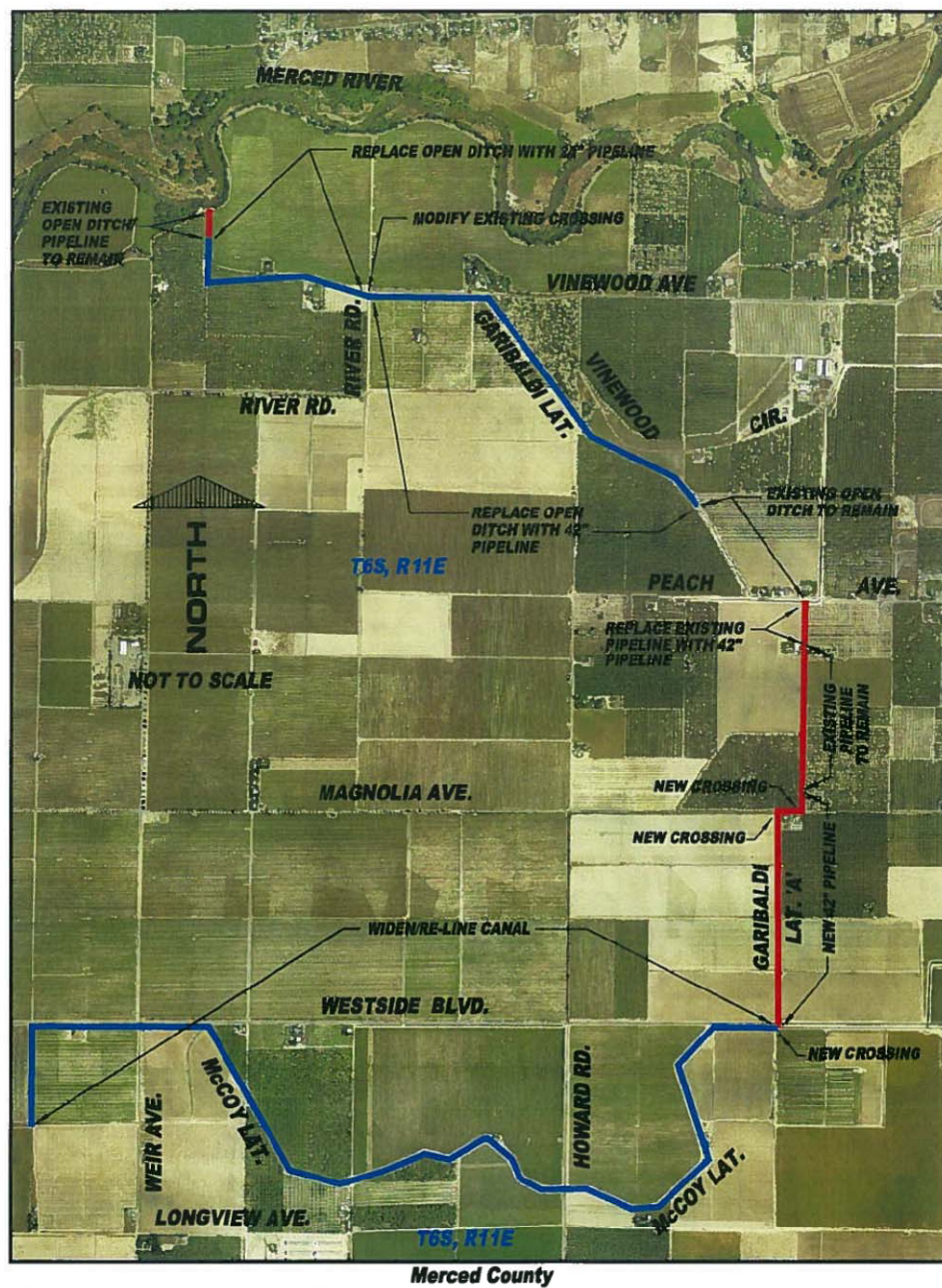


Figure 2: Site Plan



The project site is located in Sections 28, 29, 32 and 33 of T6S, R11E, and in Section 4, 5 and 6 of T7S, R11E, M.D.B. & M. in Merced County CA, east of Livingston and South of Delhi. The project includes improvements to portions of The Garibaldi Lateral between the Merced River and Peach Ave, and The Garibaldi Lateral 'A' between Peach Avenue and Westside Blvd. and portions of The McCoy Lateral between South Of Westside Blvd.

Figure 2: Site Plan

Figure 2. Site Plan

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 Water Resources

3.1.1 Affected Environment

Surface Water Resources

MID owns, operates, and stores its water from two primary sources, the New Exchequer and McSwain dams and reservoirs (Lake McClure and Lake McSwain respectively). Both have Federal Energy Regulatory Commission licensed hydroelectric facilities and are located on the Merced River. MID's water supply from Merced River diversions is approximately 450,000 acre-feet per year (AF/Y). Lake McClure has a capacity of approximately 1,024,600 acre-feet (AF) and Lake McSwain has a capacity of approximately 9,730 AF. MID facilities include 825 miles of canals and laterals, of which 620 miles are dirt-lined, 108 miles are concrete-lined and 97 miles are piped. Downstream of the lakes, MID owns and operates two canals to directly service its agricultural customers: the Northside Canal diversion and the Main Canal diversion. The latter has a capacity of 2,000 cubic feet per second (cfs), and is located three miles downstream of the McSwain Dam. The diversion is from a small reservoir created by the Crocker-Huffman Diversion Dam, owned and operated by the District. The Main Canal has a diversion to additional canal facilities that distribute the waters to the McCoy Lateral, the Garibaldi Lateral and the Garibaldi Lateral "A." The existing irrigation facilities are open earthen or concrete-lined canals with service roadways on each side, and an existing pipeline that has a dirt service roadway along the pipeline route.

The irrigated lands serviced by the McCoy Lateral, the Garibaldi Lateral "A" and the Garibaldi Lateral for the Proposed Action are located in the northwestern portion of the MID service boundary. MID typically irrigates for an 8 month season, from March to October 31 each year. The total seepage loss for MID's system is estimated at approximately 87,000 AF (average) each irrigation season.

Groundwater Resources

The Proposed Action area overlies the Merced Groundwater subbasin of the San Joaquin Valley Basin. Major rivers and streams in the subbasin include the San Joaquin, Merced, Tuolumne and Stanislaus Rivers, which account for most of the estimated 47,000 AF/Y of natural recharge to the subbasin. There is approximately 243,000 AF/Y of applied water recharge into the subbasin. Annual urban and agricultural extraction is estimated to be 54,000 AF and 492,000 AF, respectively. On average, the subbasin water level has declined about 30 feet total from 1970 through 2000 (Department of Water Resources [DWR] 2003).

MID is a conjunctive-use district and surface water diversions fluctuate appreciably between wet and critically-dry years. Additionally, MID owns and operates 239 deep irrigation wells, of which 170 are considered currently active, and have a maximum capacity of 182,900 AF yield.

3.1.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not award a CALFED Water Conservation Grant to MID that would help with the construction/improvements to the Garibaldi and McCoy Lateral canals. Water would continue to be conveyed in the existing canals and MID would not be able to further regulate its water supplies in the Garibaldi and McCoy lateral canals to control seepage or spill losses. MID would continue to use its surface water supplies as has historically occurred and some spill would continue to go into the Merced River.

Proposed Action

The Proposed Action would allow for a more efficient distribution of MID's surface water to the service area, reduce the amount of water lost to seepage or spills and potentially reduce the amount of groundwater pumped by local farmers. An equivalent amount of water to the estimated 5,600 AF which currently is lost to seepage and operational spill from the canals, would no longer be available to recharge the Merced groundwater subbasin underlying the canals' footprints. However, the Proposed Action would enable MID to conserve water for downstream users (due to improved efficiency) or to store that water in Lake McClure or other storage areas by not requesting the additional flows. Ground disturbance during construction would not result in substantial erosion or siltation because of implementation of water quality environmental protection measures mentioned above in Table 1. Therefore, the Proposed Action would have no adverse effects on water resources and would potentially have a slight beneficial effect on groundwater resources due to a decrease in pumping and surface water resources due to potentially greater storage in MID's storage facilities and overall improvement in system efficiency.

3.2 Land Use

3.2.1 Affected Environment

The Proposed Action is located just southwest of Livingston, in Merced County, California (Figure 1) surrounded by rural and agricultural land uses near the Merced River. The area is essentially flat and includes both annual row and perennial crops. Annual crops grown within the district include sweet potatoes, alfalfa, and a small quantity of tomatoes and the perennial crops include almonds, with smaller amounts of walnuts, apricots, and peaches. Also, some areas have been planted with grapes over the last few years. Irrigation methods include furrow, open ditch or border flooding, and siphon pipe on row crops and drip or micro on permanent crops. Some rural residences occur near to the Proposed Action area, between agricultural fields.

3.2.2 Environmental Consequences

No Action

Under the No Action Alternative, current conditions related to land use of the surrounding agricultural lands would remain the same. There would be no effects to land use.

Proposed Action

Land use will remain the same as described in the affected environment of EA 09-118 because all proposed improvements will occur within the footprint of existing irrigation features and Right-of-Way. Construction and placement of equipment and ground disturbance will be temporary and thus will not affect land use. The installation or modification of the lateral conveyance facilities will not contribute to changes in land use. The lands will remain in a typical agricultural cropping pattern as is typical for the soils in the service area. No lands would be fallowed or converted from a non-agricultural use to an agricultural use. The conservation and increase in efficiency of the water conveyance system for MID's agricultural customers will help MID to maintain the existing land uses and will therefore have a slight beneficial impact on land use due to the Proposed Action.

3.3 Biological Resources

3.3.1 Affected Environment

The Proposed Action area consists primarily of orchards, vineyards, and fields farmed in alfalfa and other grain crops (see attached photographs, Appendix A). The existing laterals follow roads for some sections and pass between agricultural fields in other places. The site was surveyed by Moore Biological Consulting on April 1, 2010 (Appendix B). DFG commented on MID's California Environmental Quality Act document on September 7, 2010 (Appendix B) and recommended the preconstruction surveys and other avoidance measures described in the description of the Proposed Action and Appendix B.

The following list (Table 2) was obtained on November 2, 2010 by accessing the U.S. Fish and Wildlife Service Database: http://www.fws.gov/sacramento/es/spp_list.htm (document number 101102050729). The list is for the following 7 ½ minute U.S. Geological Survey quadrangles: Turlock, Stevinson, Cressey, and Arena.

Table 2. Federal Status Species on Quad Lists				
Common Name	Scientific Name	Status¹	ESA det.²	Summary basis for ESA determination
Blunt-nosed leopard lizard	<i>Gambelia sila</i>	E	NE	No suitable land in construction area; no other land use change would occur.
California red-legged frog	<i>Rana draytonii</i>	T	NE	No suitable land in construction area; no other land use change would occur; species likely extirpated from valley floor.
California tiger salamander, central DPS	<i>Ambystoma californiense</i>	T	NE	No suitable upland or aquatic habitat in construction area; no other land use change would occur.
Central Valley spring-run chinook salmon (NMFS)	<i>Oncorhynchus tshawytscha</i>	T	NE	Loss of flow to Merced River would be a small amount spread over the entire irrigation season each year and so no effects would occur on this species downstream in the San Joaquin River.

Table 2. Federal Status Species on Quad Lists				
Common Name	Scientific Name	Status¹	ESA det.²	Summary basis for ESA determination
Central Valley steelhead (NMFS)	<i>Oncorhynchus mykiss</i>	T	NE	Loss of flow to Merced River would be a small amount spread over the entire irrigation season each year and so no effects would occur on this species downstream in the San Joaquin River.
Central Valley steelhead critical habitat (NMFS)				No critical habitat occurs in the Proposed Action area.
Colusa grass	<i>Neostapfia colusana</i>	E	NE	No vernal pools in Proposed Action area.
Colusa grass critical habitat				No critical habitat occurs in the Proposed Action area.
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	E	NE	No vernal pools in Proposed Action area.
Conservancy fairy shrimp critical habitat				No critical habitat occurs in the Proposed Action area.
Delta smelt	<i>Hypomesus transpacificus</i>	T	NE	Proposed Action area does not include the Sacramento-San Joaquin delta; loss of flows to the Merced River and therefore the San Joaquin River would be small and spread over the entire irrigation season, which would be an imperceptible change in the delta.
Fresno kangaroo rat	<i>Dipodomys nitratoideis exilis</i>	E	NE	No suitable habitat for kangaroo rats occurs in the Proposed Action area.
Giant garter snake	<i>Thamnophis gigas</i>	T	NE	No suitable land in construction area; no other land use change would occur; species believed to have been extirpated from Tulare Basin except Burrell/Lanare.
Hoover's spurge	<i>Chamaesyce hooveri</i>	T	NE	No vernal pools in Proposed Action area.
Hoover's spurge critical habitat				No critical habitat occurs in the Proposed Action area.
Longhorn fairy shrimp	<i>Branchinecta longiantenna</i>	E	NE	No vernal pools in Proposed Action area.
Longhorn fairy shrimp critical habitat				No critical habitat occurs in the Proposed Action area.
Sacramento River winter-run chinook salmon (NMFS)	<i>Oncorhynchus tshawytscha</i>	E	NE	Loss of flow to Merced River would be a small amount spread over the entire irrigation season each year and so no effects would occur on this species

				downstream in the San Joaquin River.
Table 2. Federal Status Species on Quad Lists				
Common Name	Scientific Name	Status¹	ESA det.²	Summary basis for ESA determination
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	E	NE	Marginal foraging habitat exists at construction site, but no evidence of use found.
San Joaquin Valley Orcutt grass	<i>Orcuttia inaequalis</i>	T	NE	No vernal pools in Proposed Action area.
Succulent owl's-clover	<i>Castilleja campestris</i> ssp. <i>succulenta</i>	T	NE	No vernal pools in Proposed Action area.
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	T	NE	One isolated cluster of blue elderberry is found along a part of the Garibaldi Lateral. The work would not disturb the plants and would only occur in this area during the time when beetles are not found on the plants.
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	T	NE	No vernal pools in Proposed Action area.
Vernal pool fairy shrimp critical habitat				No critical habitat occurs in the Proposed Action area.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	E	NE	No vernal pools in Proposed Action area.
Vernal pool tadpole shrimp critical habitat				No critical habitat occurs in the Proposed Action area.
¹ Status= Listing of Federally special status species E: Listed as Endangered. T: Listed as Threatened. ² Effects = NE = No Effect determination.				

Habitats along the alignment of the Proposed Action (alignment) are primarily highly disturbed agricultural lands which do not provide suitable special-status plant species habitat. Due to a lack of suitable habitat, it is unlikely that special-status plants would occur along the alignment. With the exception of Swainson's hawk, burrowing owl, and valley elderberry longhorn beetle, no sensitive wildlife species are expected to occur along or near the alignment on more than a very occasional or transitory basis.

The orchard floors, vineyard edges, road shoulders, and other ruderal areas along the alignment are vegetated with various native and non-native annual grass and weed species. Beyond the orchards, trees along the alignment include blue gum (*Eucalyptus* sp.), valley oak (*Quercus lobata*), coastal live oak (*Quercus agrifolia*), coastal redwood (*Sequoia sempervirens*), pines (*Pinus* spp.), and a number of other ornamentals. None of these trees appear to be in potential conflict with the locations of existing laterals. A single blue elderberry (*Sambucus mexicana*) shrub cluster was observed growing along the alignment. The likelihood of occurrence of valley elderberry longhorn beetle in the blue elderberry shrub cluster is low. The shrubs are in an upland setting and showed no evidence of valley elderberry longhorn beetle occupancy during the survey.

There are a number of relatively large trees along the alignment that are suitable for nesting raptors and other protected migratory birds, including Swainson's hawk. The survey was conducted in the very early part of the avian nesting season and no active raptor nests were observed. However, there are some notable raptor stick nests in some large oaks and eucalyptus along the alignment and Swainson's hawks, red-tailed hawks, and red-shouldered hawks (*Buteo lineatus*) were observed soaring and perching on poles and trees in the area. It is likely one or more of these nests have been used by nesting Swainson's hawks in the past. There are also a number of large eucalyptus and other ornamentals throughout the alignment area that could support nesting raptors.

Given the presence of trees along the alignment and raptor foraging habitat (i.e., open fields) near the alignment, it is likely one or more pairs of raptors, plus a variety of songbirds, nest along one or more of the alignment each year.

The Merced River, where the spills currently occur, is Essential Fish Habitat for Central Valley fall run chinook salmon, and also for the late fall run on an opportunistic/intermittent basis.

3.3.2 Environmental Consequences

No Action

The No Action Alternative would not have an effect on fish and wildlife resources as conditions would remain the same as existing conditions.

Proposed Action

As the Proposed Action would be limited to lining or piping open laterals and would not involve conversion of habitat to developed infrastructure or other land uses, there would be no loss of potential or actual habitat of raptors or the valley elderberry longhorn beetle.

Impacts to individual raptors would be minimized so as to avoid any take that could violate the Migratory Bird Treaty Act. The preconstruction survey/avoidance measures regarding biological resources in Section 2.2.1, *Environmental Protection Measures*, in the description of the Proposed Action, would ensure that raptors would be adequately protected.

The Proposed Action would involve enlarging and lining the McCoy Lateral. In the vicinity of the blue elderberry shrubs, which are habitat for the VELB, the lateral would be enlarged westerly, leaving the east wall of the lateral in place in the vicinity of the blue elderberry shrubs. The wall of the lateral is a thin layer of concrete covering the base of a trapezoidal trench. This concrete layer can readily be lifted off the soil without disturbance to the soil and roots below. The work would be accomplished without touching the shrubs or excavating any soil near the shrub cluster. The other measures in the Proposed Action description would also avoid any adverse direct impacts to the valley elderberry longhorn beetle (and its habitat). The McCoy Lateral is already lined in this particular area, so the Proposed Action would not line an area with concrete (and thus prevent seepage) that is currently allowing any seepage where it is currently used by the elderberry shrubs. Therefore there would be no adverse effects to special-status plants or wildlife.

As only 1,100 AF/Y of spilled operational water, spread out over the eight-month irrigation season, would be kept from flowing into the Merced River, which is a small amount of water in comparison to the volume in the Merced River, there would be no effects on Essential Fish Habitat for chinook salmon.

3.4 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office, to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

3.4.1 Affected Environment

A records search was conducted for MID by Michael Brandman Associates (MBA) at the Central California Information Center (CCIC 2010). No previously recorded prehistoric or historic archaeological resources or historic properties were found within the project APE and no previous surveys have been conducted in the area. MBA conducted a cultural resources inventory of the alignment area that resulted in the identification of two cultural resources. These resources are the Garibaldi Lateral and the McCoy Lateral. Applying the National Register criteria located at 36 CFR Part 60.4, the cultural resources were evaluated for eligibility to the National Register. Both laterals were found to be part of a larger water delivery system, identified as a district MID. The MID was determined ineligible for listing on the National Register. No other historic or potentially historic properties were identified within the APE.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no effects to historic properties since there would be no ground disturbance. Conditions related to historic properties would remain the same as existing conditions.

Proposed Action

Similar to the No Action Alternative, under the Proposed Action alternative, there would be no effects to historic properties since no historic properties were identified as part of the project. Conditions related to historic properties would remain the same as existing conditions.

In the unlikely event that cultural resources or human remains are identified during the implementation of this project there may be additional considerations pursuant to Section 106 of the NHPA. If inadvertent discoveries of cultural resources or human remains occur during project implementation, work shall temporarily stop and Reclamation cultural resources staff shall be contacted immediately. Reclamation entered into consultation with the State Historic Preservation Officer on May 11, 2011 and that consultation concluded as per the “no historic properties affected” determination in Appendix C this EA.

3.5 Indian Trust Assets

Indian trust assets (ITA) are legal interests 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 a 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. ITA cannot be sold, leased or otherwise alienated without United States’ approval. 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 examples of lands that are often considered trust assets. In some cases, ITA may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITA reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

3.5.1 Affected Environment

The Proposed Action construction and operation footprint contains facilities historically used for irrigation functions and does not contain any known ITA. The closest ITA is the Tuolumne Reservation, approximately 41 miles north/northeast of the footprint.

3.5.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no impacts to ITA as there would be no ground disturbing activity and conditions would remain the same as existing conditions.

Proposed Action

No ITA are involved in the Proposed Action, therefore the Proposed Action would not affect ITA (See Appendix C for ITA concurrence).

3.6 Indian Sacred Sites

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. It also requires agencies to develop procedures for reasonable notification of proposed actions or land management policies that may restrict access to or ceremonial use of, or adversely affect, sacred sites.

3.6.1 Affected Environment

Native American consultation activities consisted of a Sacred Lands File Search performed by the Native American Heritage Commission (NAHC); no resources were identified during this activity. Project notification letters and requests for consultation were sent to the designated Native American area contacts as identified by the NAHC. No responses were received from the Native American representatives regarding the Proposed Action.

3.6.2 Environmental Consequences

No Action

There would be no impacts to sacred sites as conditions would remain the same as existing conditions.

Proposed Action

At this time, no Indian sacred sites have been identified. In addition, the Proposed Action would not impede access to or ceremonial use of Indian sacred sites. If sites are identified in the future, Reclamation would comply with Executive Order 13007.

3.7 Environmental Justice

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

3.7.1 Affected Environment

The market for seasonal workers on local farms draws thousands of migrant workers, commonly of Hispanic origin from Mexico and Central America, into the San Joaquin Valley. Agriculture and related businesses are the main industry in MID, which provides employment opportunities for these minority and/or disadvantaged populations.

3.7.2 Environmental Consequences

No Action

The No Action alternative would not result in any adverse effects unique to minority or low-income populations in the affected area.

Proposed Action

To the extent that water supply and reliability is improved in MID's service area, it would serve to benefit the surrounding rural agricultural based communities that rely upon MID for water by

helping to stabilize their supply, which would have a slight beneficial effect on employment (through increased stability) of minority or low-income populations in the affected area.

3.8 Socioeconomic Resources

3.8.1 Affected Environment

The agricultural industry in Merced County contributes to the overall economic stability of the San Joaquin Valley. In addition other industries include food processing, retail, and light manufacturing (Merced County 2011). The market for seasonal workers annually draws thousands of workers.

3.8.2 Environmental Consequences

No Action

Under the No Action alternative, MID would not be able to stop current seepage and operational spill losses. Local farmers rely on water from MID and could be affected during years when water supplies are insufficient compared to the seepage and operational losses.

Proposed Action

The Proposed Action would increase water reliability and supply for MID. As a result, the viability of farming practices would also benefit slightly from a more reliable irrigation water supply. Construction of the Proposed Action would temporarily increase jobs. Therefore, there would be a slight beneficial effect to socioeconomics.

3.9 Air Quality

3.9.1 Affected Environment

The Proposed Action lies within the San Joaquin Valley Air Basin (SJVAB), the second largest air basin in California. Air basins share a common “air shed,” the boundaries of which are defined by surrounding topography. Although mixing between adjacent air basins inevitably occurs, air quality conditions are relatively uniform within a given air basin. The San Joaquin Valley experiences episodes of poor atmospheric mixing caused by inversion layers formed when temperature increases with elevation above ground, or when a mass of warm, dry air settles over a mass of cooler air near the ground.

Despite years of improvements, the SJVAB does not meet state and federal health-based air quality standards. To protect health, the San Joaquin Valley Air Pollution Control District (SJVAPCD) is required by federal law to adopt stringent control measures to reduce emissions. Section 176 (C) of the Clean Air Act [CAA] (42 U.S. Code (U.S.C.) 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA (42 U.S.C. 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP’s purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of those standards. Each federal agency must determine

that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact conform to the applicable SIP before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

The following *de minimis* thresholds covering the Proposed Action are presented in Table 3.

Table 3. San Joaquin Valley General Conformity <i>de minimis</i> Thresholds			
Pollutant	Federal Status	<i>de minimis</i> (Tons/year)	<i>de minimis</i> (Pounds/day)
Volatile Organic Compounds (VOC)/Reactive Organic Gases (as an ozone precursor)	Nonattainment serious 8-hour ozone	50	274
NO _x (as an ozone precursor)	Nonattainment serious 8-hour ozone	50	274
PM ₁₀	Nonattainment moderate	100	548
CO	Attainment Maintenance	100	548
Sources SJVAPCD 2009a; 40 CFR 93.153			

3.9.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no effect to air quality since there would be no change in operations and no ground disturbance. Conditions related to air quality would remain the same as existing conditions.

Proposed Action

Under the Proposed Action, short-term effects to air quality would occur during the construction activities for the installation of the pipeline or the placement of the new concrete lining. These effects would occur during use of heavy equipment during demolition, earthwork, canal relining, pipe installation, vehicle traffic, on-road (to and from the construction site)/off-road in the construction site (hauling away materials), and canal (cement) lining, resulting in the emission of various VOC/ROG due to diesel combustion and fugitive dust from ground/soil disturbance. Fugitive dust is a source of airborne particulates, including particulate matter size between 10 micrometers and 2.5 micrometers. Large earth-moving equipment, trucks, and other mobile sources powered by diesel or gasoline are also sources of combustion emissions, including nitrogen dioxide (NO₂), CO, carbon dioxide (CO₂), VOC, sulfur dioxide, and small amounts of air toxics. Table 4 provides a summary of the estimated air quality emissions during construction.

Table 4. Estimated Emissions During Construction	
Pollutant	Estimated Project Emissions^a (tons/year)
VOC/ROG	1.21
NO _x	10.10
PM ₁₀	2.76
CO	5.27
CO ₂	1,056
^a URBEMIS 2007 v.9.2.4	

Construction would last for approximately five months and these emissions would cease once construction is complete and MID's typical operational activities' emissions would resume at pre-construction levels. Comparison of the estimated Proposed Action emissions (Table 4) with the thresholds for Federal conformity determinations (Table 3) indicates that estimated project construction emissions would be below these thresholds.

The new conveyance features would be gravity-fed and no new pumps or other stationary emissions sources are proposed as part of the Proposed Action. Post-construction emissions would be from the maintenance vehicles (i.e. trucks and non-heavy equipment) used by MID personnel to monitor or operate the distribution system during the irrigation season. The level of activity would be similar to pre-construction operational levels. Due to the reduced maintenance needs of SCADA equipment maintenance compared to existing facilities needs, post-construction emissions would be expected to reduce by a small amount overall compared to pre-construction levels. Therefore, the Proposed Action would not cause adverse effects to air quality.

3.10 Global Climate

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2011a)

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as CO₂, occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO₂, methane, nitrous oxide, and fluorinated gasses (EPA 2011a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO₂ and methane, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2011b).

3.10.1 Affected Environment

More than 20 million Californians rely on the State Water Project and Central Valley Project. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

3.10.2 Environmental Consequences

No Action

The No Action alternative would not result in any adverse effects to Global Climate or local climate in the affected area as conditions would remain the same as existing conditions.

Proposed Action

Under the Proposed Action, there would be short-term emissions of GHG during construction by no long-term emissions. This has been estimated at approximately 1,056 tons per year of CO₂ from operation of heavy diesel fuel equipment needed for grading, RCP installation, concrete applications, and other ground disturbing activities (Table 4). These emissions would be well below the annual criteria for reporting GHG emissions (25,000 metric tons), which is a surrogate for the threshold of significance (EPA 2009). As a result, the Proposed Action would result in a below *de minimis* effect to global climate change.

3.11 Cumulative Effects

Biological resources would continue to be affected by other types of activities that occur in the same general area, such as low levels of ground disturbance from ongoing facilities maintenance of MID facilities and disturbance and potential dust from harvesting of crops in adjacent agricultural fields, but are unrelated to the Proposed Action. Impacts to biological resource from the implementation of the Proposed Action would occur temporarily and during construction activities only. The Proposed Action, when added to other similar past, existing, and future actions, would not contribute to cumulative adverse effects to biological resources since effects would occur only temporarily during construction and operations would not affect biological resources.

While the emissions of one single project would not cause adverse impacts to the global climate, GHG emissions from multiple projects throughout the world could result in an adverse impact to global climate change. Full build-out of the overall Garibaldi and McCoy Lateral Project could contribute to global climate change impacts due to emissions of CO₂ during construction. However, the estimated CO₂ emissions from the Proposed Project are estimated at approximately 1,056 tons/year (Table 4) and are well below the 25,000 metric tons per year threshold for reporting GHG emissions. As a result, the Proposed Action is not expected to significantly contribute to cumulative adverse impacts to global climate change.

The Proposed Action would not contribute to cumulative adverse impacts to air quality since construction activities are short-term and operations would not result in emissions. According to Table 4, the estimated emissions from full build-out of the Garibaldi and McCoy Lateral Project would still be below federal conformity thresholds (Table 3).

The Proposed Action would result in increased efficiency of MID's canal conveyance components, the Garibaldi and McCoy Lateral canals, and the overall MID diversion system at Lake McClure. As a result of improved water resource conditions, there could be minor beneficial cumulative impacts in regard to socioeconomic resources and minority or disadvantaged populations. The Proposed Action would not affect cultural resources, ITA, land uses, and Indian sacred sites; therefore, it is not expected to contribute to cumulative effects on these resources.

Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation provided the public with an opportunity to comment on the Draft Finding of No Significant Impact and Draft EA for a 15 day public comment period from September 27, 2011 through October 11, 2011. No comments were received.

4.2 Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The amendments enacted in 1946 require consultation with the USFWS and State fish and wildlife agencies where the “waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted or otherwise controlled or modified” by any agency under a Federal permit or license. Consultation is to be undertaken for the purpose of “preventing the loss of and damage to wildlife resources.”

Reclamation is proposing to fund the Proposed Action. Reclamation is not issuing MID a permit or license and the Proposed Action would not develop new water supplies. Therefore, the FWCA does not apply.

4.3 Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation has determined that the Proposed Action would not affect any Federally proposed or listed species or any proposed or designated critical habitat. Therefore, no consultation is required with either the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

4.4 National Historic Preservation Act (16 U.S.C. § 470 et seq.)

The NHPA of 1966, as amended (16 U.S.C. 470 et seq.), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National Register. Compliance with Section 106 follows a series of steps that are designed to identify

interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties. Reclamation found that the Proposed Action would result in no historic properties affected and initiated consultations with the California State Historic Preservation Officer on May 11, 2011. In addition, Reclamation consulted with one federally-recognized Indian tribe and one Native American organization with no responses received. Reclamation entered into consultation with the State Historic Preservation Officer on May 11, 2011 and that consultation concluded as per the “no historic properties affected” determination in Appendix C of EA 09-118.

4.5 Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.)

The MBTA implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action would be in compliance with the Migratory Bird Treaty Act by ensuring avoidance of any migratory birds and nests during construction. The Proposed Action would have no effect on surrounding land use which could be foraging habitat for migratory birds.

4.6 Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The Proposed Action would not affect either concern as there are none in the Proposed Action area.

4.7 Clean Air Act (42 U.S.C. § 7506 (C))

Section 176 of the CAA requires that any entity of the Federal government that engages in, supports, or in any way provided financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable SIP required under Section 110 (a) of the CAA (42 U.S.C. § 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP’s purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact conform to the applicable SIP before the action is taken.

The Proposed Action would involve minor construction or land disturbing activities that could lead to fugitive dust emissions. However, the effects from construction would be temporary and of very low magnitude. Additionally, during operation of the Proposed Action, the operation of SCADA equipment would use a minimal amount of electricity from existing sources, and would be expected to fall well below the *de minimis* thresholds for the SJVAPCD; therefore, there are no adverse air quality effects (as detailed in Section 3.9 Air Quality) associated with the Proposed Action and a conformity analysis is not required.

4.8 Clean Water Act (33 U.S.C. § 1251 et seq.)

Section 404

Section 404 of the CWA authorizes the U. S. Army Corps of Engineers to issue permits to regulate the discharge of “dredged or fill materials into waters of the United States” (33 U.S.C. § 1344).

The Proposed Action would qualify under an exemption from the permitting process via Regulatory Guidance Letter No. 07-02 for “Construction and Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches”. Thus no permit would be necessary and the Proposed Action would be in compliance with Section 404 of the CWA.

Section 401

Section 401 of the Clean Water Act (CWA) (33 U.S.C. § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 U.S.C. § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual U. S. Army Corps of Engineers dredge and fill discharge permit to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling. Since no 404 permit would be needed for the Proposed Project, no 401 would be needed either.

Section 5 List of Preparers and Reviewers

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Section 6 References

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