SUPPLEMENTAL MITIGATED NEGATIVE DECLARATION

Keyes 1, 2, 3 TCP Mitigation Project

(SCH #2018112050)

February 2022

PREPARED FOR:

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SECTION ONE – INTRODUCTION

This environmental document is a Supplemental Initial Study / Mitigated Negative Declaration to the Keyes Community Services District's *Keyes 1, 2, 3 TCP Mitigation Project* (Approved Project) Initial Study / Mitigated Negative Declaration (IS/MND), adopted in February 2019 (State Clearinghouse #20181120503), by the Keyes Community Services District (District). After filing the Notice of Determination for the Approved Project, minor changes were made to the Project which included removing a previously-planned backwash holding tank at Well 9 and installing a 150,000 gallon backwash pond adjacent to the Well 9 site. Additional modifications consist of changes to tank sizes at Wells 7, 8 and 10. Refer to Section 2.2 – Project Description herein for more information pertaining to the revised Project. These additional components of the Project were not included in the original IS/MND and are being evaluated herein. As demonstrated in this Supplemental IS/MND, there are no additional significant impacts pursuant to California Environmental Quality Act (CEQA).

1.1 Supplemental IS/MND Purpose

When a proposed project is changed or there are changes in environmental setting, a determination must be made by the Lead Agency as to whether an Addendum, a Supplemental MND, or Subsequent MND is prepared. CEQA Guidelines Sections 15162 and 15163 set forth criteria to assess which environmental document is appropriate. A Supplemental IS/MND is appropriate if only minor additions or changes would be necessary to make the previous CEQA document adequately apply to the project in the changed situation.

Based upon the information provided in Section Three of this document, inclusion of the additional Project components will not result in new significant impacts or substantially increase the severity of impacts previously identified in the original IS/MND.

As such, a Supplemental IS/MND is appropriate, and this Supplemental IS/MND has been prepared to address the environmental effects of the Project modifications.

1.2 Environmental Analysis and Conclusions

This Supplemental IS/MND addresses the environmental effects associated only with modifications to the Approved Project that have occurred since adoption of the IS/MND. The conclusions of the analysis in this Supplemental IS/MND remain consistent with those made in the original IS/MND. No new significant impacts will result, and no substantial increase in severity of impacts will result from those previously identified in the original IS/MND. However,

mitigation measures from the original IS/MND will also be applicable to the areas analyzed within this Supplemental IS/MND (See Section 3 for more information).

1.3 Incorporation by Reference

In compliance with CEQA Guidelines Section 15150, this Supplemental IS/MND has incorporated by reference the District's *Keyes 1, 2, 3 TCP Mitigation Project* Mitigated Negative Declaration, adopted in February 2019 (State Clearinghouse #20181120503), by the Keyes Community Services District. Information from this document incorporated by reference into this Supplemental IS/MND have been briefly summarized in the appropriate section(s) which follow, and the relationship between the incorporated part of the referenced document and this Supplemental IS/MND has been described. The original IS/MND is available for review at the Keyes Community Services District, 5601 7th Street, Keyes, CA 95328.

1.4 Supplemental IS/MND Process

As described in Section 1.1, a Supplemental IS/MND to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary.[1] The Supplemental IS/MND will be circulated for a public review period of at least 30 days. The decision-making body shall consider the Supplemental IS/MND with the adopted negative declaration prior to making a decision on the project.[2] Once adopted, the Supplemental IS/MND, along with the original IS/MND, is placed in the Administrative Record, and the CEQA process is complete.

A copy of the Supplemental IS/MND will be transmitted to the State Clearinghouse.

[1] CEQA Guidelines, Section 15163(a)
[2] CEQA Guidelines Section 15163(e)

SECTION TWO – PROJECT DESCRIPTION

2.1 Location and Setting

The Keyes Community Services District (District) is located in Stanislaus County in the San Joaquin Valley. The District is located on Highway 99 south of Ceres and north of Turlock.

The Project occurs in two separate areas of the District (Figure 1 – Regional Map and Figure 2 – Project Area Map). The first component of the project (Granular Activated Carbon (GAC) Treatment) is located at Wells 8, 9 and 10. Well 8 is at the intersection of Martha Avenue and 9th Street in a residential area; Well 9 is on the west side of Faith Home Road in an almond orchard, approximately 0.2 miles west of Highway 99; and Well 10 is on the north side of Lucinda Avenue in a gravel lot.

The second component (Water transport from Well 7 to Well 10) extends from Well 7 located at the eastern terminus of Maude Avenue adjacent to a public park and residential area, to Well 10 which is located on Lucinda Avenue on the eastern edge of the District.

Location of Additional Activities

There is one area associated with the additional Project components that was not included in the evaluation of the original IS/MND. That area is located adjacent to the footprint of Well 9. At that location, a new 150,000 gallon backwash pond will be installed (approximately 10,000 square feet of area) adjacent to and immediately west of the existing Well 9 site. This change is being made because the existing Well 9 site does not have enough space to install a backwash tank, thus a backwash pond will be installed adjacent to the Well 9 site. The location of the proposed 150,000 gallon backwash pond is shown in Figure 3 – Location of New Project Components. The other modifications to the Project only involve changes to the planned sizes of the backwash tanks at Wells 8 and 10. Those will occur within the areas that were previously evaluated under the original IS/MND and will not result in additional ground disturbance outside of the existing Well 8 and Well 10 footprints.

2.2 Project Description

The following is the Project Description that was included in the original IS/MND:

> "The CSD plans to make several improvements to the community's water system and improve centralized proposed TCP treatment.
>
> The Project includes two components:

1. *Granular Activated Carbon (GAC) Treatment at Well 8, Well 9, and Well 10.* This component will centralize TCP treatment at Wells 8, 9, and 10. Two trains and a 40,000 gallon backwash tank will be constructed at Well 8. Three trains and a 60,000 gallon backwash tank will be constructed at Well 9. Four trains and a 60,000 gallon backwash tank will be constructed at Well 10.

2. *Water Transport from Well 7 to Well 10*. Because physical space at Well 7 cannot accommodate GAC infrastructure, this component involves conveying raw ground water from Well 7 to Well 10 for TCP treatment. Approximately 2,532 linear feet of 6-inch pipeline will be installed below existing roads between Well 7 and Well 10."

Updates to the Original IS/MND Project Description

Minor changes were made to the Project which consist of installation of a new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. This change is being made because the existing Well 9 site does not have enough space to install a backwash tank, thus a backwash pond will be installed adjacent to the Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND. To assist in the evaluation of the additional Project area (backwash pond), supplemental biological and cultural surveys and reports were prepared.

Figure 1 – Regional Map

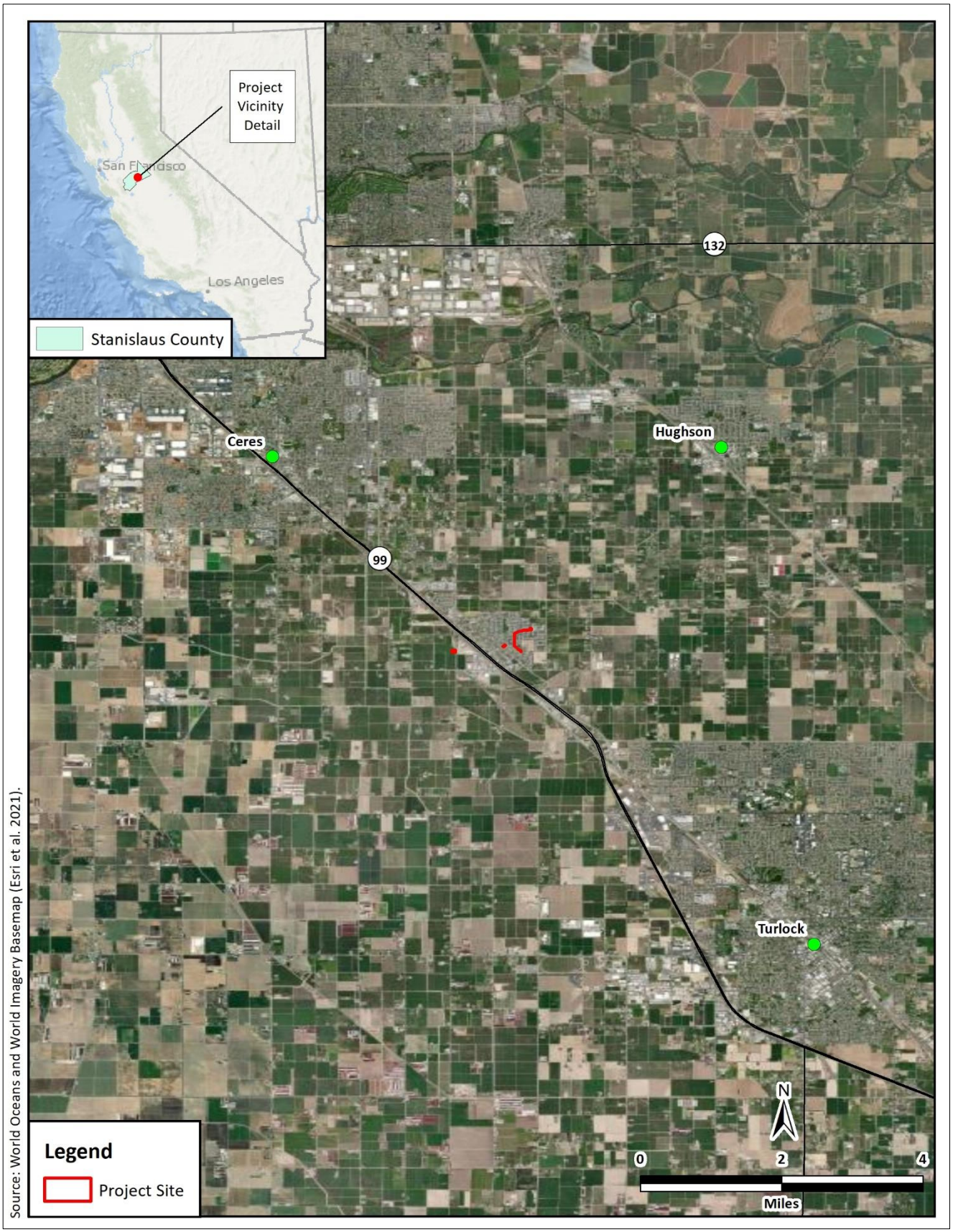


Figure 2 – Project Area Map

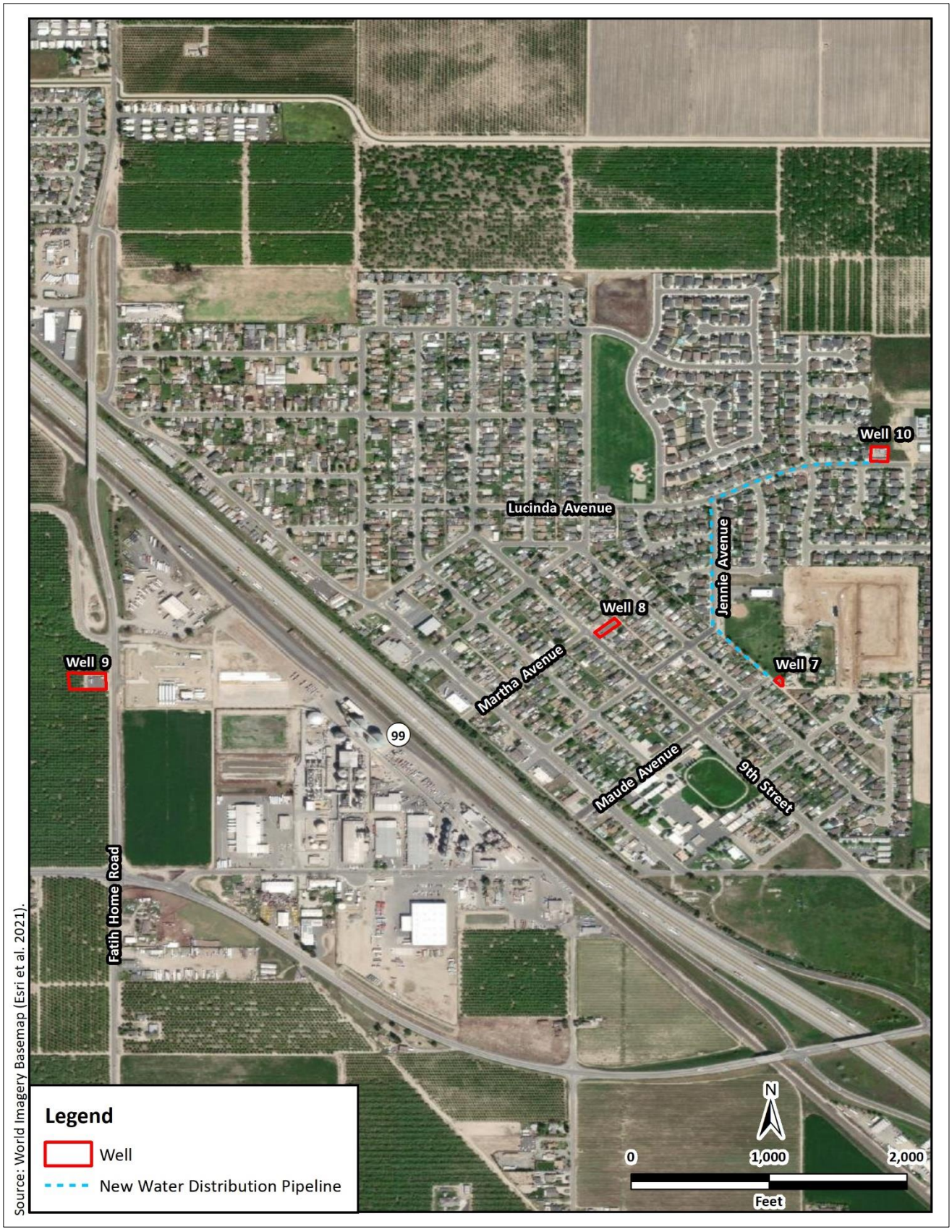
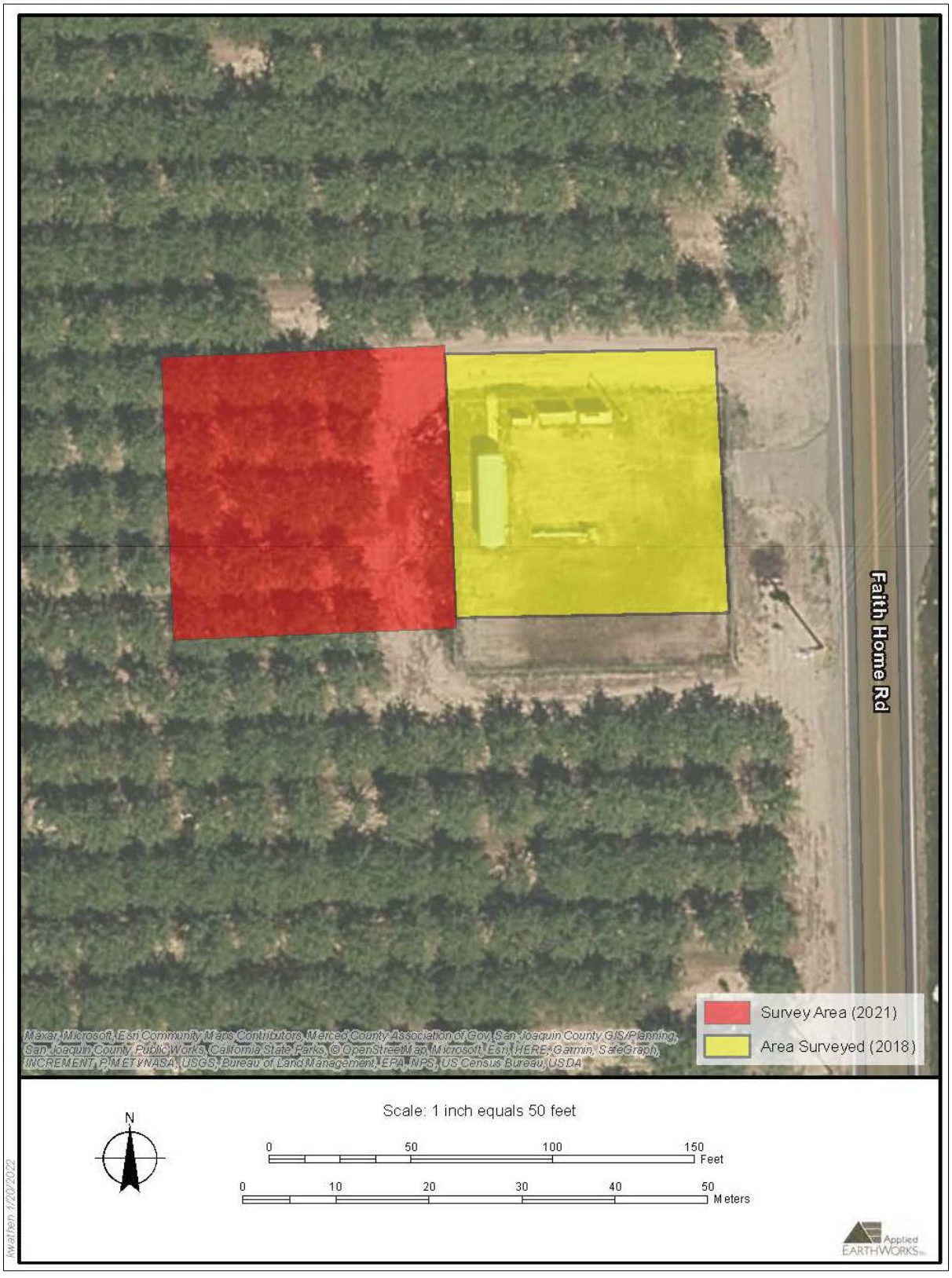


Figure 3 – Location of New Project Components



SECTION THREE – CEQA CHECKLIST

The purpose of the checklist is to evaluate the categories in terms of any changed condition (e.g., changed circumstances, project changes, or new information of substantial importance) that may result in a changed environment result (e.g., a new significant impact or substantial increase in the severity of a previously identified significant effect).

The questions posed in the checklist come from Appendix G of the CEQA Guidelines. A "no" answer does not necessarily mean that there are no potential impacts relative to the environmental category, but that there is no change in the condition or status of the impact since it was analyzed and addressed with mitigation measures in the original IS/MND prepared for the project. These environmental categories might be answered with a "no" in the checklist, since the proposed project does not introduce changes that would result in modification to the conclusion of the adopted IS/MND.

3.1 Checklist Evaluation Categories

Conclusion in Prior IS/MND – This column provides a cross reference to the section of the IS/MND where the conclusion may be found relative to the environmental issue listed under each topic.

Section 15162 (a)(1) Findings – Pursuant to CEQA Guidelines Section 15162(a)(1), this column indicates whether the changes represented by the revised project will result in new significant environmental impacts not previously identified or mitigated by the original IS/MND, or whether the changes will result in a substantial increase in the severity of a previously identified significant impact.

Section 15162 (a)(2) Findings – Pursuant to CEQA Guidelines Section 15162(a)(2), this column indicates where there have been substantial changes with respect to the circumstances under which the project is undertaken that will require major revisions to the IS/MND, due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

Section 15162 (a)(3) Findings – Pursuant to CEQA Guidelines Section 15162(a)(3)(a-d), this column indicates whether new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous MND was certified as complete.

Adopted IS/MND Mitigation Measures – Pursuant to CEQA Guidelines Section 15162(a)(3), this column indicates whether the IS/MND provides mitigation measures to address effects in the related impact category.

3.2 Environmental Analysis

As explained in Section One, this comparative analysis has been undertaken pursuant to the provisions of CEQA Section 15163 to provide the District with the factual basis for determining whether any changes in the project, any changes in circumstances, or any new information since the IS/MND was adopted require additional environmental review or preparation of a Supplemental IS/MND to the original IS/MND previously prepared.

As described in Section Two, there are additional components being added to the Project. Because of this, new analysis for impacts within the Project area is provided in this Section of the Supplemental IS/MND and are listed as follows:

I. AESTHETICS

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Have a substantial adverse effect on a scenic vista?	No Impact.	**No.** The revised Project will not significantly impact a scenic vista. See discussion below.	**No.** The revised Project will not significantly impact a scenic vista. See discussion below.	**No.** The revised Project will not significantly impact a scenic vista. See discussion below.	None.
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact.	**No.** The revised Project will not significantly impact scenic resources in the Project area. See discussion below.	**No.** The revised Project will not significantly impact scenic resources in the Project area. See discussion below.	**No.** The revised Project will not significantly impact scenic resources in the Project area. See discussion below.	None.
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	Less Than Significant Impact.	**No.** The revised Project would not substantially degrade site existing visual character. See discussion below.	**No.** The revised Project would not substantially degrade site existing visual character. See discussion below.	**No.** The revised Project would not substantially degrade site existing visual character. See discussion below.	None.
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less Than Significant Impact.	**No.** The revised Project would not create a source of substantial light or glare. See discussion below.	**No.** The revised Project would not create a source of substantial light or glare. See discussion below.	**No.** The revised Project would not create a source of substantial light or glare. See discussion below.	None.

DISCUSSION

The previously original IS/MND determined that the proposed Project would have no impacts or a less than significant impact on aesthetics. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The only above-ground structure associated with the pond will be fencing that will be installed around the perimeter (similar to the existing fencing around Well 9). The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

There are no scenic vistas or state designated scenic highways in the Project area. The additional Project components (backwash pond and re-sized storage tanks) will be similar to existing structures in the Project areas and will not substantially degrade the existing visual character of the Project area. There is no lighting associated with the additional improvements. As such, the proposed additional improvements will not result in impacts beyond what was analyzed in the original IS/MND. Therefore, the Project will continue to have no impacts or less than significant impacts on aesthetics.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on aesthetics.

II. AGRICULTURAL RESOURCES

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use?	No Impact.	**No.** The revised Project will not remove any land from agricultural production. See discussion below.	**No.** The revised Project will not remove any land from agricultural production. See discussion below.	**No.** The revised Project will not remove any land from agricultural production. See discussion below.	None.
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact.	**No.** The revised Project will not remove any land from agricultural production. See discussion below.	**No.** The revised Project will not remove any land from agricultural production. See discussion below.	**No.** The revised Project will not remove any land from agricultural production. See discussion below.	None.
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No Impact.	**No.** The revised Project will not remove any land from agricultural production. See discussion below.	**No.** The revised Project will not remove any land from agricultural production. See discussion below.	**No.** The revised Project will not remove any land from agricultural production. See discussion below.	None.
d. Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact.	**No.** There is no forest land on site.	**No.** There is no forest land on site.	**No.** There is no forest land on site.	None.
e. Involve other changes in the existing	No Impact.	**No.** The revised Project	**No.** The revised Project	**No.** The revised Project	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?		will not remove any land from agricultural production. See discussion below.	will not remove any land from agricultural production. See discussion below.	will not remove any land from agricultural production. See discussion below.	

DISCUSSION

The previously original IS/MND determined that the proposed Project would have no impacts on agricultural or forestry resources. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

Installation of the backwash pond will require expansion of the Well 9 site to the west. Currently that area is used for agricultural purposes (planted with almond trees). The backwash pond will result in the loss of approximately 10,000 square feet (less than ¼ of an acre) of farmland and the removal of approximately 24 almond trees. However, farming activities can continue to occur adjacent to the backwash pond site and the Project will not result in further loss of farmland. Therefore, this relatively minor amount of loss of farmland is considered less than significant.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on agricultural and forestry resources.

III. AIR QUALITY

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant Impact.	**No.** The revised Project would not create new significant increases in air emissions that would conflict or obstruct implementation of an available air quality plan. See discussion below.	**No.** The revised Project would not create new significant increases in air emissions that would conflict or obstruct implementation of an available air quality plan. See discussion below.	**No.** The revised Project would not create new significant increases in air emissions that would conflict or obstruct implementation of an available air quality plan. See discussion below.	None.
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Less Than Significant Impact.	**No.** The revised Project would not introduce any new impacts related to air quality standards or violations not previously disclosed. See discussion below.	**No.** The revised Project would not introduce any new impacts related to air quality standards or violations not previously disclosed. See discussion below.	**No.** The revised Project would not introduce any new impacts related to air quality standards or violations not previously disclosed. See discussion below.	None.
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative	Less Than Significant Impact.	**No.** The revised Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state	**No.** The revised Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state	**No.** The revised Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
thresholds for ozone precursors)?		ambient air quality standard. See discussion below.	ambient air quality standard. See discussion below.	quality standard. See discussion below.	
d. Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact.	**No.** The revised Project would not expose sensitive receptors to substantial pollutant concentrations. See discussion below.	**No.** The revised Project would not expose sensitive receptors to substantial pollutant concentrations. See discussion below.	**No.** The revised Project would not expose sensitive receptors to substantial pollutant concentrations. See discussion below.	None.
e. Create objectionable odors affecting a substantial number of people?	Less Than Significant Impact	**No.** The revised Project does not involve any land uses that would create additional objectionable odors. See discussion below.	**No.** The revised Project does not involve any land uses that would create additional objectionable odors. See discussion below.	**No.** The revised Project does not involve any land uses that would create additional objectionable odors. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have a less than significant impact on air quality. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The proposed additional Project components will not substantially increase the severity of air quality impacts or result in a significant increase in emissions and will not result in air emissions that exceed any Air District thresholds.

The estimated annual construction and operational emissions are shown below. The California Emissions Estimator (CalEEMod), Version 2016.3.2, was used to estimate construction of the water treatment plants and operational (vehicle trips) emissions. The water treatment plants will run off electrical power so there will be no on-site emissions generated by plant operations. The Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 8.1.0 was utilized to estimate emissions generated from installing the approximately 2,500 linear feet of pipeline. Modeling results are provided in Table 1 and the CalEEMod and Road Construction Emissions Model output files are provided in Appendix A. The emissions in Table 1 include the additional Project components described herein. As identified in the Table, construction and operational emissions are well below the established air emission thresholds.

Table 1
Proposed Project Construction and Operation Emissions

Pollutant/ Precursor	Construction Emissions (tpy)	Threshold/ Exceed?	Operational Emissions (permitted) (tpy)	Threshold/ Exceed?
CO	2.11	100/**N**	1.47	100/**N**
NOx	2.47	10/**N**	1.44	10/**N**
ROG	0.73	10/**N**	0.42	10/**N**
SOx	0.00	27/**N**	0.00	27/**N**
PM_{10}	0.18	15/**N**	0.36	15/**N**
$PM_{2.5}$	0.14	15/**N**	0.11	15/**N**
CO_2	321.05	n/a	680.06	n/a

The Air District rules and regulations identified in the original IS/MND pertaining the original project description also apply to the additional improvements being proposed. As such, the proposed additional improvements will not result in a significant increase in impacts beyond what was analyzed in the original IS/MND. Therefore, the Project will continue to have less than significant impacts on air quality.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on air quality.

IV. BIOLOGICAL RESOURCES

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Less Than Significant Impact With Mitigation.	**No.** The additional Project components will have similar impacts to the original project and after mitigation, will not have a substantial effect on any candidate plant or animal species. Additional biological surveys were conducted for the new Project components and no biological resources were identified. See discussion below.	**No.** The additional Project components will have similar impacts to the original project and after mitigation, will not have a substantial effect on any candidate plant or animal species. Additional biological surveys were conducted for the new Project components and no biological resources were identified. See discussion below.	**No.** The additional Project components will have similar impacts to the original project and after mitigation, will not have a substantial effect on any candidate plant or animal species. Additional biological surveys were conducted for the new Project components and no biological resources were identified. See discussion below.	BIO – 1
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	No Impact.	**No.** The site does not contain any biologically unique or riparian habitat or other sensitive nature community. See discussion below.	**No.** The site does not contain any biologically unique or riparian habitat or other sensitive nature community. See discussion below.	**No.** The site does not contain any biologically unique or riparian habitat or other sensitive nature community. See discussion below.	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact.	**No.** No wetlands are present within the original project site or within the areas of the additional new project components. See discussion below.	**No.** No wetlands are present within the original project site or within the areas of the additional new project components. See discussion below.	**No.** No wetlands are present within the original project site or within the areas of the additional new project components. See discussion below.	None.
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less Than Significant Impact With Mitigation.	**No.** The revised Project will not interfere with any fish or wildlife movement or corridors. The additional Project components will have similar impacts to the original project and after mitigation, will not interfere substantially with wildlife movement. Additional biological surveys were conducted for the new Project components and no biological resources were identified. See	**No.** The revised Project will not interfere with any fish or wildlife movement or corridors. The additional Project components will have similar impacts to the original project and after mitigation, will not interfere substantially with wildlife movement. Additional biological surveys were conducted for the new Project components and no biological resources were identified. See discussion below.	**No.** The revised Project will not interfere with any fish or wildlife movement or corridors. The additional Project components will have similar impacts to the original project and after mitigation, will not interfere substantially with wildlife movement. Additional biological surveys were conducted for the new Project components and no biological resources were identified. See discussion below.	BIO – 2

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
		discussion below.			
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact.	**No.** No local ordinances are applicable to the Project. This includes the original project area and the new project area. No additional impacts. See discussion below.	**No.** No local ordinances are applicable to the Project. This includes the original project area and the new project area. No additional impacts. See discussion below.	**No.** No local ordinances are applicable to the Project. This includes the original project area and the new project area. No additional impacts. See discussion below.	None.
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact.	**No.** There are no adopted any biological conservation plans applicable to the Project. See discussion below.	**No.** There are no adopted any biological conservation plans applicable to the Project. See discussion below.	**No.** There are no adopted any biological conservation plans applicable to the Project. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have no impact associated with Impact IV (b), (c), (e) and (f) a less than significant impact (with mitigation) associated with Impact IV (a) and (d). The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes

to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

No biological resources were identified in the original IS/MND. However, as identified in the original IS/MND, the Project has the potential to impact the state-listed as threatened Swainson's hawk, which could nest near the Project sites. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Loss of fertile eggs or nestlings, or any activities resulting in nest abandonment, would constitute a significant impact. Mitigation measure BIO-1 (below) was included in the conditions of approval of the original IS/MND to reduce the potential impact to a less-than-significant level.

As identified in the original IS/MND, the Project also has the potential to impede the use of nursery sites for native birds protected under the Migratory Bird Treaty Act and California Fish and Game Code. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort is considered take by the CDFW. Loss of fertile eggs or nestlings, or any activities resulting in nest abandonment, could constitute a significant impact if the species is particularly rare in the region. Construction activities such trenching and grading that disturb a rare nesting bird on the site or immediately adjacent to the construction zone could constitute a significant impact. Mitigation measure BIO-2 (below) was included in the conditions of approval of the original IS/MND to reduce the potential impact to a less-than-significant level.

The proposed additional improvements described herein will occur within the vicinity of the Approved Project. However, the site of the proposed backwash pond at Well 9 was not included in the biological resource surveys for the original IS/MND. Because of the additional Project area, an additional biological survey was conducted and an updated Biological Resource Evaluation (BRE) was prepared by Colibri Ecological Consulting, Inc. (See Appendix B). Based on the results of the updated BRE, the additional Project area does not include any protected biological resources. However, Mitigation Measures BIO – 1 and BIO – 2 will also be applicable to the new area.

Therefore, with mitigation, the Project will continue to have less than significant impacts on biological resources.

FINAL IS/MND MITIGATION MEASURES

BIO-1 **Protect Nesting Swainsons Hawks.** If work will occur during the Swainson's hawk nesting season (15 March – 15 August), a qualified biologist shall conduct a survey for active Swainson's hawk nests within 0.25 miles of the Project site no more than 14 days prior to the start of construction. If an active nest is found within 0.25 miles and the activity would disrupt nesting, a buffer or limited operating period should be implemented in consultation with the CDFW.

BIO-2 **Protect Nesting Birds.**

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.
2. If it is not possible to schedule construction between September and January, preconstruction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas for nests. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

CONCLUSION

After mitigation, the Project will have a less than significant impact on biological resources.

V. CULTURAL RESOURCES

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	Less Than Significant Impact With Mitigation.	**No.** The additional Project components will not have significant impacts on a historical resource. Additional cultural/historical surveys were conducted for the new Project components and no historical resources were identified. See discussion below.	**No.** The additional Project components will not have significant impacts on a historical resource. Additional cultural/historical surveys were conducted for the new Project components and no historical resources were identified. See discussion below.	**No.** The additional Project components will not have significant impacts on a historical resource. Additional cultural/historical surveys were conducted for the new Project components and no historical resources were identified. See discussion below.	CUL - 1
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Less Than Significant Impact With Mitigation.	**No.** The additional Project components will not create any new impacts. No known historic, archaeological, or paleontological resources exist on site. See discussion below.	**No.** The additional Project components will not create any new impacts. No known historic, archaeological, or paleontological resources exist on site. See discussion below.	**No.** The additional Project components will not create any new impacts. No known historic, archaeological, or paleontological resources exist on site. See discussion below.	CUL - 1
c. Disturb any human remains, including those interred outside of formal cemeteries?	Less Than Significant Impact.	**No.** The additional Project components will not create any new impacts. No known historic resources, archaeological resources, or human remains exist on site. See discussion below.	**No.** The additional Project components will not create any new impacts. No known historic resources, archaeological resources, or human remains	**No.** The additional Project components will not create any new impacts. No known historic resources, archaeological resources, or human remains exist on site. See discussion below.	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
			exist on site. See discussion below.		

DISCUSSION

The original IS/MND determined that the proposed Project would have a less than significant impact (with mitigation) on cultural resources. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

No cultural, historical or archaeological resources were identified in the original IS/MND. However, a mitigation measure was included in the event that undiscovered (buried) resources are present within the Project site (Mitigation Measure CUL-1). The proposed additional improvements described herein will occur within the vicinity of the Approved Project. However, the site of the proposed backwash pond at Well 9 was not included in the cultural resource surveys for the original IS/MND (See Figure 3). Because of the additional Project area, a Supplemental Cultural Resource Survey and Supplemental Report was prepared by Applied Earthworks, Inc. (See Appendix C). A background records search and Phase I cultural resources survey was conducted for the new Project area by Applied Earthworks. Based on the results of the CHRIS records search, outreach to local tribal contacts, a pedestrian survey and buried site assessment analysis, no cultural or historic resources were identified in the additional Project area.

Although no protected resources were discovered, unidentified cultural resources could be uncovered during proposed Project construction which could result in a potentially significant impact; however, implementation of Mitigation Measure CUL-1 would ensure that significant impacts remain less than significant with mitigation incorporation.

In summary, it is anticipated that a *Finding of No Historic Properties Affected* will be determined for resources within the Project APE for purposes of Section 106. Furthermore, it is not anticipated that the Project would result in any adverse change in the significance of a historical or unique archaeological resource, as defined by CEQA.

Therefore, with mitigation, the Project will continue to have less than significant impacts on cultural resources.

FINAL IS/MND MITIGATION MEASURES

CUL-1 In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire Project area, all work in the vicinity of the find should be halted until a qualified archaeologist can assess the discovery and take appropriate actions as necessary.

CONCLUSION

After mitigation, the Project will have a less than significant impact on cultural resources.

VI. Energy

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Not evaluated.	**No.** The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. See discussion below.	**No.** The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. See discussion below.	**No.** The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. See discussion below.	None.
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Not evaluated.	**No.** The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. See discussion below.	**No.** The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. See discussion below.	**No.** The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. See discussion below.	None.

DISCUSSION

This topic was not included in the original IS/MND, as the CEQA Guidelines have been updated since the original IS/MND was adopted. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and

consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The Project components described herein will not substantially increase the severity of energy use. The proposed Project would be required to implement and be consistent with existing energy design standards at the local and state level, such as Title 24. The Project would also be subject to energy conservation requirements in the California Energy Code and CALGreen for the Project. Adherence to state code requirements would ensure that the Project would not result in wasteful and inefficient use of non-renewable resources due to operation.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on energy.

VII. GEOLOGY AND SOILS

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	Less Than Significant Impact.	**No.** The revised Project would not be exposed to fault rupture and would not increase the severity of impacts. See discussion below.	**No.** The revised Project would not be exposed to fault rupture and would not increase the severity of impacts. See discussion below.	**No.** The revised Project would not be exposed to fault rupture and would not increase the severity of impacts. See discussion below.	None.
ii. Strong seismic ground shaking?	Less Than Significant Impact.	**No**. The revised Project would not increase exposure to risks associated with strong seismic ground shaking. See discussion below.	**No**. The revised Project would not increase exposure to risks associated with strong seismic ground shaking. See discussion below.	**No**. The revised Project would not increase exposure to risks associated with strong seismic ground shaking. See discussion below.	None.
iii. Seismic-related ground failure, including liquefaction?	Less Than Significant Impact.	**No.** The revised Project would not increase	**No.** The revised Project would not increase	**No.** The revised Project would not increase	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
		exposure to seismic-related ground failure including liquefaction. See discussion below.	exposure to seismic-related ground failure including liquefaction. See discussion below.	exposure to seismic-related ground failure including liquefaction. See discussion below.	
iv. Landslides?	Less Than Significant Impact.	**No.** The revised Project would not increase exposure to landslides. See discussion below.	**No.** The revised Project would not increase exposure to landslides. See discussion below.	**No.** The revised Project would not increase exposure to landslides. See discussion below.	None.
b. Result in substantial soil erosion or the loss of topsoil?	Less Than Significant Impact.	**No.** The revised Project would not result in soil erosion or the loss of topsoil. See discussion below.	**No.** The revised Project would not result in soil erosion or the loss of topsoil. See discussion below.	**No.** The revised Project would not result in soil erosion or the loss of topsoil. See discussion below.	None.
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less Than Significant Impact.	**No.** The revised Project would not increase exposure to risks associated with unstable geologic units or soils. See discussion below.	**No.** The revised Project would not increase exposure to risks associated with unstable geologic units or soils. See discussion below.	**No.** The revised Project would not increase exposure to risks associated with unstable geologic units or soils. See discussion below.	None.
d. Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating	Less Than Significant Impact.	**No.** The revised Project would not increase exposure to risks associated	**No.** The revised Project would not increase exposure to risks associated	**No.** The revised Project would not increase exposure to risks associated	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
substantial risks to life or property?		with expansive soil. See discussion below.	with expansive soil. See discussion below.	with expansive soil. See discussion below.	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact.	**No.** The revised Project would not implement septic tanks or alternative wastewater disposal systems. See discussion below.	**No.** The revised Project would not implement septic tanks or alternative wastewater disposal systems. See discussion below.	**No.** The revised Project would not implement septic tanks or alternative wastewater disposal systems. See discussion below.	None.
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less Than Significant Impact.	**No.** The revised Project would not impact paleontological resources. See discussion below.	**No.** The revised Project would not impact paleontological resources. See discussion below.	**No.** The revised Project would not impact paleontological resources. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have less than significant impacts associated with geology and soils. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The original IS/MND identified that no active faults underlay the Project site and no substantial erosion or loss of topsoil will occur. Since no known surface expression of active faults is believed to cross the site, fault rupture through the site is not anticipated. The site is also not located on unstable soil. The same conclusions would apply to the proposed additional Project components described in Section 2.2 – Project Description herein. The Project does not include the use of septic tanks or other alternative wastewater disposal systems. No new impacts would occur.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on geology and soils.

VIII. GREENHOUSE GAS EMISSIONS

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact.	**No.** The revised Project would not generate a significant amount of greenhouse gas emissions. See discussion below.	**No.** The revised Project would not generate a significant amount of greenhouse gas emissions. See discussion below.	**No.** The revised Project would not generate a significant amount of greenhouse gas emissions. See discussion below.	None.
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less Than Significant Impact.	**No.** The revised Project would not conflict with an applicable GHG reduction plan. See discussion below.	**No.** The revised Project would not conflict with an applicable GHG reduction plan. See discussion below.	**No.** The revised Project would not conflict with an applicable GHG reduction plan. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have a less than significant impact associated with greenhouse gas emissions. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The additional Project components described herein will not significantly increase the severity of greenhouse gas emissions or conflict with any applicable plans or policies pertaining to greenhouse gases, as these Project components would not result in the Project exceeding established greenhouse gas emission thresholds. Construction-related GHG emissions would occur for approximately twelve

months and would cease following completion of the Project. The proposed Project is not a land-use development project that would generate vehicle trips and is not a roadway capacity increasing project that could carry additional vehicle trips. As shown in Table 1, the Project is estimated to produce 1,001 tons per year of CO_2 (combined construction and operational totals), which is approximately 4% of the reporting threshold set by the USEPA (the reporting threshold is 25,000 metric tons). Therefore, the proposed Project would not generate significant greenhouse gas emissions, conflict with an applicable plan, policy or regulation adopted for the purpose of reducing greenhouse gas emissions, or result in significant global climate change impacts. Impacts would be less than significant**.** The Air District rules and regulations identified in the IS/MND pertaining the original project description also apply to the additional Project components.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on greenhouse gas emissions.

IX. HAZARDS AND HAZARDOUS MATERIALS

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact.	**No.** The revised Project would not create new or increased impact involving hazardous materials. See discussion below.	**No.** The revised Project would not create new or increased impact involving hazardous materials. See discussion below.	**No.** The revised Project would not create new or increased impact involving hazardous materials. See discussion below.	None.
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less Than Significant Impact.	**No.** The revised Project would not create additional significant hazard to the public or environmental through reasonably foreseeable upset and accident conditions. See discussion below.	**No.** The revised Project would not create additional significant hazard to the public or environmental through reasonably foreseeable upset and accident conditions. See discussion below.	**No.** The revised Project would not create additional significant hazard to the public or environmental through reasonably foreseeable upset and accident conditions. See discussion below.	None.
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less Than Significant Impact.	**No.** The revised Project would not emit or handle hazardous materials that would impact a school. See discussion below.	**No.** The revised Project would not emit or handle hazardous materials that would impact a school. See discussion below.	**No.** The revised Project would not emit or handle hazardous materials that would impact a school. See discussion below.	None.
d. Be located on a site which is included on a list of hazardous materials sites	No Impact.	**No**. The revised Project is not designated as a site which is	**No**. The revised Project is not designated as a site which is	**No**. The revised Project is not designated as a site which is	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?		included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. See discussion below.	included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. See discussion below.	included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. See discussion below.	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	No impact.	**No.** The revised Project site is not within two miles of a public or private airport. See discussion below.	**No.** The revised Project site is not within two miles of a public or private airport. See discussion below.	**No.** The revised Project site is not within two miles of a public or private airport. See discussion below.	None.
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact.	**No.** The revised Project would not impair emergency evacuation or response. See discussion below.	**No.** The revised Project would not impair emergency evacuation or response. See discussion below.	**No.** The revised Project would not impair emergency evacuation or response. See discussion below.	None.
g. Expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires.	No Impact.	**No.** The revised Project would not expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires. See discussion below.	**No.** The revised Project would not expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires. See discussion below.	**No.** The revised Project would not expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires. See discussion below.	None.

DISCUSSION

The previously adopted Mitigated Negative Declaration determined that the proposed Project would have no impact associated with impact areas IX (d), (e) and (g) and a less than significant impact associated with impact areas IX (a), (b), (c) and (f). The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The additional Project components described herein will not increase any impacts associated with hazards and hazardous materials, as the additional components are related to the original Project and will not substantially increase the severity of hazard/hazardous materials impacts. The applicable rules and regulations identified in the original IS/MND regarding hazardous materials also apply to the additional area.

Keyes Elementary School and the Barbara Spratling Middle School are within 0.25 miles of the existing Well 7 and Well 10 sites. As described in the original IS/MND, the proposed water treatment facilities will be in compliance will all applicable hazardous and safety standards. Additionally, the site of Wells 7 and 10 is currently, and will continue to be enclosed with fencing (or masonry wall) which will ensure the safety of nearby residents or students. In addition, the Project site is not located on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5. The nearest public airports to Keyes are the Stockton Metro Airport (32 miles north) and the Merced Regional Airport (32 miles south) and therefore the proposed Project is not located within any airport safety zone.

Therefore, the revised Project will not result in hazardous impacts beyond what was previously analyzed in the original IS/MND.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on hazards and hazardous materials.

X. HYDROLOGY AND WATER QUALITY

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Violate any water quality standards or waste discharge requirements?	Less than Significant Impact.	**No.** The revised Project would not violate water quality standards or waste discharge requirements. See discussion below.	**No.** The revised Project would not violate water quality standards or waste discharge requirements. See discussion below.	**No.** The revised Project would not violate water quality standards or waste discharge requirements. See discussion below.	None.
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	Less than Significant Impact.	**No**. The revised Project would not substantially deplete groundwater resources or impair groundwater recharge. See discussion below.	**No**. The revised Project would not substantially deplete groundwater resources or impair groundwater recharge. See discussion below.	**No**. The revised Project would not substantially deplete groundwater resources or impair groundwater recharge. See discussion below.	None.
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	Less than Significant Impact.	**No**. The revised Project would not substantially alter the existing drainage pattern in the area that would cause significant erosion or siltation. See discussion below.	**No**. The revised Project would not substantially alter the existing drainage pattern in the area that would cause significant erosion or siltation. See discussion below.	**No**. The revised Project would not substantially alter the existing drainage pattern in the area that would cause significant erosion or siltation. See discussion below.	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Less than Significant Impact.	**No**. The revised Project would not substantially alter the existing drainage pattern in the area that would cause flooding. See discussion below.	**No**. The revised Project would not substantially alter the existing drainage pattern in the area that would cause flooding. See discussion below.	**No**. The revised Project would not substantially alter the existing drainage pattern in the area that would cause flooding. See discussion below.	None.
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	No Impact.	**No**. The revised Project will not significantly impact storm drainage systems. See discussion below.	**No**. The revised Project will not significantly impact storm drainage systems. See discussion below.	**No**. The revised Project will not significantly impact storm drainage systems. See discussion below.	None.
f. Otherwise substantially degrade water quality?	Less than Significant Impact.	**No**. The revised Project will not otherwise degrade water quality. See discussion below.	**No**. The revised Project will not otherwise degrade water quality. See discussion below.	**No**. The revised Project will not otherwise degrade water quality. See discussion below.	None.
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	No Impact.	**No.** There is no housing associated with the Project. See discussion below.	**No.** There is no housing associated with the Project. See discussion below.	**No.** There is no housing associated with the Project. See discussion below.	None.
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	No Impact.	**No.** The revised Project area is not within a 100-year flood zone. See discussion below.	**No.** The revised Project area is not within a 100-year flood zone. See discussion below.	**No.** The revised Project area is not within a 100-year flood zone. See discussion below.	None.
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including	Less than Significant Impact.	**No.** The revised Project area is not within a dam or levee	**No.** The revised Project area is not within a dam or levee	**No.** The revised Project area is not within a dam or levee	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
flooding as a result of the failure of a levee or dam?		inundation zone. See discussion below.	inundation zone. See discussion below.	inundation zone. See discussion below.	
j. Inundation by seiche, tsunami, or mudflow?	No Impact.	**No.** The revised Project area is not subject to seiche, tsunami or mudflow. See discussion below.	**No.** The revised Project area is not subject to seiche, tsunami or mudflow. See discussion below.	**No.** The revised Project area is not subject to seiche, tsunami or mudflow. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have no impact associated with impact areas X (e), (g), (h) and (j) and a less than significant impact associated with impact areas IX (a), (b), (c), (d), (f) and (i). The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The additional Project components described herein will not increase any impacts associated with hydrology and water quality, as the additional components are related to the original Project and will not substantially increase the severity of hydrology or water quality impacts. The proposed Project includes improvements to the existing community water system. Currently, water from Wells 7 - 10 have elevated TCP levels. Construction and operation of a water treatment system would reduce those levels, thereby producing a beneficial result. The State Water Resources Control Board will have ultimate review and approval of the upgraded system, thereby ensuring adequate water quality standards.

Construction of the water treatment facilities will treat the water from Wells 7-10 for excessive TCP levels and will not expand current capacity of the existing wells. Additionally, the proposed Project will not significantly interfere with groundwater recharge as it will introduce minimal amounts of impermeable surfaces.

The applicable rules and regulations identified in the original IS/MND regarding hydrology and water quality also apply to the additional area.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on hydrology and water quality.

XI. LAND USE AND PLANNING

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Physically divide an established community?	No Impact.	**No.** The revised Project would not divide an established community. See discussion below.	**No.** The revised Project would not divide an established community. See discussion below.	**No.** The revised Project would not divide an established community. See discussion below.	None.
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact.	**No.** The revised Project is consistent with the allowable land use. See discussion below.	**No.** The revised Project is consistent with the allowable land use. See discussion below.	**No.** The revised Project is consistent with the allowable land use. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have no impact on land use and planning. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The inclusion of the additional Project components described hererin will not result in any changes to land use designations or otherwise conflict with any plans or policies, as the additional improvements are related to the activities evaluated in the original IS/MND and the additional improvements will not significantly increase the severity of land use and planning impacts.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have no impact on land use and planning.

XII. MINERAL RESOURCES

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No Impact.	**No.** The revised Project would not result in the loss of known mineral resources. See discussion below.	**No.** The revised Project would not result in the loss of known mineral resources. See discussion below.	**No.** The revised Project would not result in the loss of known mineral resources. See discussion below.	None.
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact.	**No.** The revised Project would not result in the loss of known mineral resources. See discussion below.	**No.** The revised Project would not result in the loss of known mineral resources. See discussion below.	**No.** The revised Project would not result in the loss of known mineral resources. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have no impact on mineral resources. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

There are no known mineral resources of importance to the region and the Project site is not designated under the Stanislaus County General Plan as an important mineral resource recovery site. The inclusion of the additional Project components will not result in any additional impacts to mineral resources.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have no impact on mineral resources.

XIII. NOISE

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less Than Significant Impact.	**No.** The revised Project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. See discussion below.	**No.** The revised Project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. See discussion below.	**No.** The revised Project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. See discussion below.	None.
b. Generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant Impact.	**No.** The revised Project would not generate excessive groundborne vibration or groundborne noise levels. See discussion below.	**No.** The revised Project would not generate excessive groundborne vibration or groundborne noise levels. See discussion below.	**No.** The revised Project would not generate excessive groundborne vibration or groundborne noise levels. See discussion below.	None.
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in	No Impact.	**No.** There are no public or private airports or airstrips in the area.	**No.** There are no public or private airports or airstrips in the area.	**No.** There are no public or private airports or airstrips in the area.	None.

the project area to excessive noise levels?					

DISCUSSION

The original IS/MND determined that the proposed Project would have no impact associated with impact areas XIII (c) and a less than significant impact associated with impact areas XIII (a) and (b). The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The additional Project components described herein will not substantially increase any noise impacts. The backwash pond will not generate noise once operational, nor will the backwash tanks. For Project construction, noise from construction related activities will contribute to the noise environment in the immediate vicinity. The Stanislaus County General Plan EIR limits construction noise to 75 dBA at a receiving property line between 7 am and 7 pm. The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. A more severe approach would be impractical and might preclude the kind of construction activities that are to be expected from time to time in urban environments. Most residents of urban areas recognize this reality and expect to hear construction activities on occasion. As the construction period will be brief and periodic, and construction hours would be limited to those established in the County General Plan EIR, any impacts would be less than significant.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on noise.

XIV. POPULATION AND HOUSING

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact.	**No.** The revised Project would not induce substantial growth in the project area. See discussion below.	**No.** The revised Project would not induce substantial growth in the project area. See discussion below.	**No.** The revised Project would not induce substantial growth in the project area. See discussion below.	None.
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	No Impact.	**No.** The revised Project will not displace existing housing. See discussion below.	**No.** The revised Project will not displace existing housing. See discussion below.	**No.** The revised Project will not displace existing housing. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have no impacts associated with population and housing. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

There are no new homes or businesses associated with the proposed Project, nor would Project implementation displace people or housing. The proposed Project includes the construction and operation of a water treatment system to lower TCP levels in the existing water supply and will not

expand the current capacity of the existing community water system. The proposed Project will not require a significant amount of new employees. As such, the proposed Project would not directly or indirectly induce population growth and there is no impact.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have no impact on population and housing.

XV. PUBLIC SERVICES

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
Fire protection?	No Impact.	**No.** The revised Project would not result in a need for new or expanded fire protection facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded fire protection facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded fire protection facilities. See discussion below.	None.
Police protection?	No Impact.	**No.** The revised Project would not result in a need for new or expanded police protection facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded police protection facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded police protection facilities. See discussion below.	None.
Schools?	No Impact.	**No.** The revised Project would	**No.** The revised Project would	**No.** The revised Project would	None.

		not result in a need for new or expanded school facilities. See discussion below.	not result in a need for new or expanded school facilities. See discussion below.	not result in a need for new or expanded school facilities. See discussion below.	
Parks?	No Impact.	**No.** The revised Project would not result in a need for new or expanded park facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded park facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded park facilities. See discussion below.	None.
Other public facilities?	No Impact.	**No.** The revised Project would not result in a need for new or expanded other facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded other facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded other facilities. See discussion below.	None.

DISCUSSION

The previously adopted Mitigated Negative Declaration determined that the proposed Project would have no impact on public services. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The proposed Project would not directly or indirectly induce population growth (See section XIV – Population and Housing), as the Project does not include residential units and would not require significant staffing. Because the demand for public facilities is driven by population, the proposed Project would not increase demand for those services. As such, the proposed Project would result in no impacts.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have no impact on public services.

XVI. RECREATION

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No Impact.	**No.** The revised Project would not result in the deterioration of an existing park. See discussion below.	**No.** The revised Project would not result in the deterioration of an existing park. See discussion below.	**No.** The revised Project would not result in the deterioration of an existing park. See discussion below.	None.
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact.	**No.** The revised Project would not result in a need for new or expanded park facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded park facilities. See discussion below.	**No.** The revised Project would not result in a need for new or expanded park facilities. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have no impact on recreation. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The proposed Project would not directly or indirectly induce population growth as the Project does not include residential units and would not require significant staffing. Because the demand for public facilities is driven by population, the proposed Project would not increase demand for those services. As such, the proposed Project would result in no impacts.

The proposed Project does not include the construction of residential uses and would not directly or indirectly induce population growth (See section XIV – Population and Housing). Therefore, the proposed Project would not cause physical deterioration of existing recreational facilities from increased usage or result in the need for new or expanded recreational facilities. There are no impacts.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have no impact on recreation.

XVII. TRANSPORTATION/TRAFFIC

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	No Impact.	**No.** The revised Project would not conflict with a program plan, ordinance or policy addressing the performance of the circulation system. See discussion below.	**No.** The revised Project would not conflict with a program plan, ordinance or policy addressing the performance of the circulation system. See discussion below.	**No.** The revised Project would not conflict with a program plan, ordinance or policy addressing the performance of the circulation system. See discussion below.	None.
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	No Impact.	**No.** The revised Project would not conflict with an applicable congestion management plan. See discussion below.	**No.** The revised Project would not conflict with an applicable congestion management plan. See discussion below.	**No.** The revised Project would not conflict with an applicable congestion management plan. See discussion below.	None
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in	No Impact.	**No.** The revised Project would result in a change in air traffic patterns.	**No.** The revised Project would result in a change in air traffic patterns.	**No.** The revised Project would result in a change in air traffic patterns.	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
substantial safety risks?		See discussion below.	See discussion below.	See discussion below.	
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact.	**No.** The revised Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). See discussion below.	**No.** The revised Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). See discussion below.	**No.** The revised Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). See discussion below.	None.
e. Result in inadequate emergency access?	No Impact.	**No.** The revised Project would not result in inadequate emergency access. See discussion below.	**No.** The revised Project would not result in inadequate emergency access. See discussion below.	**No.** The revised Project would not result in inadequate emergency access. See discussion below.	None.
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	No Impact.	**No.** The revised Project would not conflict with any adopted policies, plans or programs. See discussion below.	**No.** The revised Project would not conflict with any adopted policies, plans or programs. See discussion below.	**No.** The revised Project would not conflict with any adopted policies, plans or programs. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have no impact on transportation. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are

related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The proposed Project would not cause a substantial increase in traffic, reduce the existing level of service, create any additional congestion at any intersections, or result in hazardous roadway designs. The Project will not generate any additional traffic beyond existing conditions (other than temporary construction-related traffic trips) and as such, level of service standards would not be exceeded. There are no components of the proposed Project that would increase hazards due to a geometric design feature. As traffic due to construction activities would be temporary in nature, the proposed Project would not cause a substantial increase in traffic or result in inadequate emergency access. Construction schedules pertaining to pipelines within roadways will be coordinated with sheriff/fire/emergency services. Adequate emergency access will be maintained at all times.

Once installed, the Project would not generate significant additional traffic trips per day, other than as needed for periodic maintenance. The Project would not conflict with a program plan, ordinance, or policy addressing the circulation system. The additional Project components described herein does not increase any impacts to transportation.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have no impact on transportation.

XVIII. TRIBAL CULTURAL RESOURCES

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	Less than Significant Impact.	**No.** The revised Project is not listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). See discussion below.	**No.** The revised Project is not listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). See discussion below.	**No.** The revised Project is not listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). See discussion below.	None.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Less Than Significant Impact.	**No.** The revised Project is not a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. See discussion below.	**No.** The revised Project is not a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. See discussion below.	**No.** The revised Project is not a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have a less than significant impact on Tribal Cultural Resources. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

Tribal consultation was undertaken for the original IS/MND in August 2018, the results of which are summarized in the original IS/MND. No tribes requested formal consultation. The proposed additional improvements described in Section 2.2 – Project Description will occur adjacent to the existing Well 9 and is within the immediate area of the original tribal consultation requests. Therefore, the additional Project components will not increase the severity of tribal cultural resource impacts.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have less than significant impacts on tribal cultural resources.

XIX. UTILITIES AND SERVICE SYSTEMS

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	Less Than Significant Impact.	**No.** The Project and revised Project itself is a water treatment facility and does not include a wastewater component. See discussion below.	**No.** The Project and revised Project itself is a water treatment facility and does not include a wastewater component. See discussion below.	**No.** The Project and revised Project itself is a water treatment facility and does not include a wastewater component. See discussion below.	None.
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Less Than Significant Impact.	**No.** The Project and revised Project itself is a water treatment facility and does not include a wastewater component. See discussion below.	**No.** The Project and revised Project itself is a water treatment facility and does not include a wastewater component. See discussion below.	**No.** The Project and revised Project itself is a water treatment facility and does not include a wastewater component. See discussion below.	None.
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Less Than Significant Impact.	**No.** The Project and revised Project itself is a water treatment facility and will not significantly impact stormwater drainage facilities. See discussion below.	**No.** The Project and revised Project itself is a water treatment facility and will not significantly impact stormwater drainage facilities. See discussion below.	**No.** The Project and revised Project itself is a water treatment facility and will not significantly impact stormwater drainage facilities. See discussion below.	None.
d. Have sufficient water supplies available to serve the project from existing entitlements and	No Impact.	**No.** The Project and revised Project itself is a water treatment facility and will not significantly	**No.** The Project and revised Project itself is a water treatment facility and will not significantly	**No.** The Project and revised Project itself is a water treatment facility and will not significantly	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
resources, or are new or expanded entitlements needed?		impact water supplies. See discussion below.	impact water supplies. See discussion below.	impact water supplies. See discussion below.	
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No Impact.	**No.** The Project and revised Project itself is a water treatment facility and does not include a wastewater component. See discussion below.	**No.** The Project and revised Project itself is a water treatment facility and does not include a wastewater component. See discussion below.	**No.** The Project will comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	None.
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	Less Than Significant Impact.	**No.** The revised Project will not significantly impact existing landfills. See discussion below.	**No.** The revised Project will not significantly impact existing landfills. See discussion below.	**No.** The revised Project will not significantly impact existing landfills. See discussion below.	None.
g. Comply with federal, state, and local statutes and regulations related to solid waste?	No Impact.	**No.** The revised Project will comply with federal, state, and local management and reduction statutes and regulations related to solid waste. See discussion below.	**No.** The revised Project will comply with federal, state, and local management and reduction statutes and regulations related to solid waste. See discussion below.	**No.** The revised Project will comply with federal, state, and local management and reduction statutes and regulations related to solid waste. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have no impact associated with impact area XIX (d), (e), and (g) and a less than significant impact associated with impact areas XIX (a), (b), (c) and (f). The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and 10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The proposed Project includes improvements to the District's existing community water system to remove TCP from the District's water supply. No component of the proposed Project would generate wastewater, thus the Project would not exceed any wastewater treatment requirements set by the Central Valley Regional Water Quality Control Board. In addition, the Project would not require additional water supplies and therefore would not require expanded water entitlements.

The additional Project components described herein does not increase any impacts to utilities and service systems and the impact is less than significant.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have less than significant impacts on utilities and service systems.

XX. WILDFIRE

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	Not evaluated.	**No.** The Project and the revised Project will not impair an adopted emergency response or evacuation plan. See discussion below.	**No.** The Project and the revised Project will not impair an adopted emergency response or evacuation plan. See discussion below.	**No.** The Project and the revised Project will not impair an adopted emergency response or evacuation plan. See discussion below.	None.
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Not evaluated.	**No.** The Project and the revised Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. See discussion below.	**No.** The Project and the revised Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. See discussion below.	**No.** The Project and the revised Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. See discussion below.	None
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire	Not evaluated.	**No.** The Project and the revised Project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks,	**No.** The Project and the revised Project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks,	**No.** The Project and the revised Project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks,	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
risk or that may result in temporary or ongoing impacts to the environment?		emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. See discussion below.	emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. See discussion below.	emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. See discussion below.	
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Not evaluated.	**No.** The Project and the revised Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. See discussion below.	**No.** The Project and the revised Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. See discussion below.	**No.** The Project and the revised Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. See discussion below.	None.

DISCUSSION

This topic was not included in the original IS/MND, as the CEQA Guidelines have been updated since the original IS/MND was adopted. The proposed additional improvements described in Section 2.2 – Project Description will occur on or within the vicinity of the Approved Project as described in the original IS/MND. The additional components are related to the Approved Project components and consist of installation of new 150,000-gallon backwash pond (approximately 10,000 square feet of area) that will be installed adjacent to and immediately west of the existing Well 9 site. The other modifications to the Project only involve changes to the sizes of the backwash tanks at Wells 8 and

10. However, those minor changes in tank size will occur within the footprint/areas that were previously evaluated under the original IS/MND.

The proposed Project includes improvements to the District's existing water supply system, which will include underground pipelines, treatment vessels, backwash holding tanks, a backwash pond, and related improvements. There is no increased risk or on-going risk of wildfire beyond existing conditions associated with the Project. The additional Project components described herein does not increase any impacts to wildfires.

FINAL IS/MND MITIGATION MEASURES

None.

CONCLUSION

The Project will have a less than significant impact on wildfire.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
Would the project:					
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Less Than Significant Impact With Mitigation.	**No.** The revised Project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples f the major periods of California history or prehistory. See discussion below.	**No.** The revised Project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples f the major periods of California history or prehistory. See discussion below.	**No.** The revised Project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples f the major periods of California history or prehistory. See discussion below.	BIO – 1 BIO – 2 CUL – 1
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable"	Less Than Significant Impact.	**No.** The revised Project would not have cumulatively considerable impacts. See	**No.** The revised Project would not have cumulatively considerable impacts. See discussion below.	**No.** The revised Project would not have cumulatively considerable impacts. See discussion below.	None.

Environmental Issue Area	Adopted IS/MND Conclusion	Section 15162 (a)(1) Findings	Section 15162 (a)(2) Findings	Section 15162 (a)(3) Findings	Adopted IS/MND Mitigation Measures
means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		discussion below.			
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less Than Significant Impact.	**No.** The revised Project would not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. See discussion below.	**No.** The revised Project would not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. See discussion below.	**No.** The revised Project would not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. See discussion below.	None.

DISCUSSION

The original IS/MND determined that the proposed Project would have a less than significant impact with mitigation regarding mandatory findings of significance. The additional Project components described in Section 2.2 – Project Description herein does not increase any impacts on the mandatory findings of significance.

FINAL IS/MND MITIGATION MEASURES

BIO -1, BIO – 2, and CUL – 1.

CONCLUSION

The Project will have a less than significant impact, with mitigation on mandatory findings of significance.

Appendices

Appendix A

Air Emission Model Results

Keyes TCP Project

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.00	1000sqft	0.23	10,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2024
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Table Name	Column Name	Default Value	New Value

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1119	0.4227	0.4359	7.3000e-004	4.1600e-003	0.0217	0.0259	1.2900e-003	0.0201	0.0214	0.0000	64.4588	64.4588	0.0185	0.0000	64.9203
Maximum	**0.1119**	**0.4227**	**0.4359**	**7.3000e-004**	**4.1600e-003**	**0.0217**	**0.0259**	**1.2900e-003**	**0.0201**	**0.0214**	**0.0000**	**64.4588**	**64.4588**	**0.0185**	**0.0000**	**64.9203**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1119	0.4227	0.4359	7.3000e-004	4.1600e-003	0.0217	0.0259	1.2900e-003	0.0201	0.0214	0.0000	64.4587	64.4587	0.0185	0.0000	64.9202
Maximum	**0.1119**	**0.4227**	**0.4359**	**7.3000e-004**	**4.1600e-003**	**0.0217**	**0.0259**	**1.2900e-003**	**0.0201**	**0.0214**	**0.0000**	**64.4587**	**64.4587**	**0.0185**	**0.0000**	**64.9202**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-24-2022	4-23-2022	0.2513	0.2513
2	4-24-2022	7-23-2022	0.2805	0.2805
		Highest	0.2805	0.2805

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Mobile	0.0150	0.1506	0.1602	9.0000e-004	0.0586	5.2000e-004	0.0591	0.0157	4.9000e-004	0.0162	0.0000	83.5207	83.5207	4.2600e-003	0.0000	83.6273
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	0.0000	0.7337	0.0754	1.7800e-003	3.1477
Total	**0.0621**	**0.1609**	**0.1689**	**9.6000e-004**	**0.0586**	**1.3000e-003**	**0.0599**	**0.0157**	**1.2700e-003**	**0.0170**	**3.2507**	**94.6579**	**97.9086**	**0.2286**	**1.9800e-003**	**104.2143**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Energy	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Mobile	0.0150	0.1506	0.1602	9.0000e-004	0.0586	5.2000e-004	0.0591	0.0157	4.9000e-004	0.0162	0.0000	83.5207	83.5207	4.2600e-003	0.0000	83.6273
Waste						0.0000	0.0000		0.0000	0.0000	2.5171	0.0000	2.5171	0.1488	0.0000	6.2360
Water						0.0000	0.0000		0.0000	0.0000	0.7337	0.0000	0.7337	0.0754	1.7800e-003	3.1477
Total	**0.0621**	**0.1609**	**0.1689**	**9.6000e-004**	**0.0586**	**1.3000e-003**	**0.0599**	**0.0157**	**1.2700e-003**	**0.0170**	**3.2507**	**94.6579**	**97.9086**	**0.2286**	**1.9800e-003**	**104.2143**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Keyes TCP Project - San Joaquin Valley Unified APCD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/24/2022	2/4/2022	5	10	
2	Site Preparation	Site Preparation	2/5/2022	2/7/2022	5	1	
3	Grading	Grading	2/8/2022	2/9/2022	5	2	
4	Building Construction	Building Construction	2/10/2022	6/29/2022	5	100	
5	Paving	Paving	6/30/2022	7/6/2022	5	5	
6	Architectural Coating	Architectural Coating	7/7/2022	7/13/2022	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,000; Non-Residential Outdoor: 5,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Keyes TCP Project - San Joaquin Valley Unified APCD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	4.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5500e-003	0.0321	0.0374	6.0000e-005		1.6900e-003	1.6900e-003		1.6100e-003	1.6100e-003	0.0000	5.2068	5.2068	9.6000e-004	0.0000	5.2308
Total	**3.5500e-003**	**0.0321**	**0.0374**	**6.0000e-005**		**1.6900e-003**	**1.6900e-003**		**1.6100e-003**	**1.6100e-003**	**0.0000**	**5.2068**	**5.2068**	**9.6000e-004**	**0.0000**	**5.2308**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.1000e-004	1.2100e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3341	0.3341	1.0000e-005	0.0000	0.3343
Total	**1.8000e-004**	**1.1000e-004**	**1.2100e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3341**	**0.3341**	**1.0000e-005**	**0.0000**	**0.3343**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5500e-003	0.0321	0.0374	6.0000e-005		1.6900e-003	1.6900e-003		1.6100e-003	1.6100e-003	0.0000	5.2068	5.2068	9.6000e-004	0.0000	5.2308
Total	**3.5500e-003**	**0.0321**	**0.0374**	**6.0000e-005**		**1.6900e-003**	**1.6900e-003**		**1.6100e-003**	**1.6100e-003**	**0.0000**	**5.2068**	**5.2068**	**9.6000e-004**	**0.0000**	**5.2308**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.1000e-004	1.2100e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3341	0.3341	1.0000e-005	0.0000	0.3343
Total	**1.8000e-004**	**1.1000e-004**	**1.2100e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3341**	**0.3341**	**1.0000e-005**	**0.0000**	**0.3343**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-004	3.4700e-003	1.9800e-003	0.0000		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4310
Total	**2.9000e-004**	**3.4700e-003**	**1.9800e-003**	**0.0000**	**2.7000e-004**	**1.3000e-004**	**4.0000e-004**	**3.0000e-005**	**1.2000e-004**	**1.5000e-004**	**0.0000**	**0.4275**	**0.4275**	**1.4000e-004**	**0.0000**	**0.4310**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0167	0.0167	0.0000	0.0000	0.0167
Total	**1.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0167**	**0.0167**	**0.0000**	**0.0000**	**0.0167**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-004	3.4700e-003	1.9800e-003	0.0000		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4310
Total	**2.9000e-004**	**3.4700e-003**	**1.9800e-003**	**0.0000**	**2.7000e-004**	**1.3000e-004**	**4.0000e-004**	**3.0000e-005**	**1.2000e-004**	**1.5000e-004**	**0.0000**	**0.4275**	**0.4275**	**1.4000e-004**	**0.0000**	**0.4310**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0167	0.0167	0.0000	0.0000	0.0167
Total	**1.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0167**	**0.0167**	**0.0000**	**0.0000**	**0.0167**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	6.4100e-003	7.4700e-003	1.0000e-005		3.4000e-004	3.4000e-004		3.2000e-004	3.2000e-004	0.0000	1.0414	1.0414	1.9000e-004	0.0000	1.0462
Total	**7.1000e-004**	**6.4100e-003**	**7.4700e-003**	**1.0000e-005**	**7.5000e-004**	**3.4000e-004**	**1.0900e-003**	**4.1000e-004**	**3.2000e-004**	**7.3000e-004**	**0.0000**	**1.0414**	**1.0414**	**1.9000e-004**	**0.0000**	**1.0462**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0668	0.0668	0.0000	0.0000	0.0669
Total	**4.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0668**	**0.0668**	**0.0000**	**0.0000**	**0.0669**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	6.4100e-003	7.4700e-003	1.0000e-005		3.4000e-004	3.4000e-004		3.2000e-004	3.2000e-004	0.0000	1.0414	1.0414	1.9000e-004	0.0000	1.0462
Total	**7.1000e-004**	**6.4100e-003**	**7.4700e-003**	**1.0000e-005**	**7.5000e-004**	**3.4000e-004**	**1.0900e-003**	**4.1000e-004**	**3.2000e-004**	**7.3000e-004**	**0.0000**	**1.0414**	**1.0414**	**1.9000e-004**	**0.0000**	**1.0462**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0668	0.0668	0.0000	0.0000	0.0669
Total	**4.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0668**	**0.0668**	**0.0000**	**0.0000**	**0.0669**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0343	0.3513	0.3576	5.7000e-004		0.0186	0.0186		0.0171	0.0171	0.0000	50.0739	50.0739	0.0162	0.0000	50.4787
Total	**0.0343**	**0.3513**	**0.3576**	**5.7000e-004**		**0.0186**	**0.0186**		**0.0171**	**0.0171**	**0.0000**	**50.0739**	**50.0739**	**0.0162**	**0.0000**	**50.4787**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	0.0105	1.8600e-003	3.0000e-005	6.6000e-004	3.0000e-005	6.9000e-004	1.9000e-004	3.0000e-005	2.2000e-004	0.0000	2.6503	2.6503	2.0000e-004	0.0000	2.6552
Worker	7.2000e-004	4.6000e-004	4.8200e-003	1.0000e-005	1.6000e-003	1.0000e-005	1.6100e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3364	1.3364	3.0000e-005	0.0000	1.3372
Total	**1.0200e-003**	**0.0109**	**6.6800e-003**	**4.0000e-005**	**2.2600e-003**	**4.0000e-005**	**2.3000e-003**	**6.1000e-004**	**4.0000e-005**	**6.5000e-004**	**0.0000**	**3.9867**	**3.9867**	**2.3000e-004**	**0.0000**	**3.9924**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0343	0.3513	0.3576	5.7000e-004		0.0186	0.0186		0.0171	0.0171	0.0000	50.0738	50.0738	0.0162	0.0000	50.4787
Total	**0.0343**	**0.3513**	**0.3576**	**5.7000e-004**		**0.0186**	**0.0186**		**0.0171**	**0.0171**	**0.0000**	**50.0738**	**50.0738**	**0.0162**	**0.0000**	**50.4787**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-004	0.0105	1.8600e-003	3.0000e-005	6.6000e-004	3.0000e-005	6.9000e-004	1.9000e-004	3.0000e-005	2.2000e-004	0.0000	2.6503	2.6503	2.0000e-004	0.0000	2.6552
Worker	7.2000e-004	4.6000e-004	4.8200e-003	1.0000e-005	1.6000e-003	1.0000e-005	1.6100e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3364	1.3364	3.0000e-005	0.0000	1.3372
Total	**1.0200e-003**	**0.0109**	**6.6800e-003**	**4.0000e-005**	**2.2600e-003**	**4.0000e-005**	**2.3000e-003**	**6.1000e-004**	**4.0000e-005**	**6.5000e-004**	**0.0000**	**3.9867**	**3.9867**	**2.3000e-004**	**0.0000**	**3.9924**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6200e-003	0.0148	0.0176	3.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	2.3492	2.3492	6.8000e-004	0.0000	2.3663
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6200e-003**	**0.0148**	**0.0176**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.3492**	**2.3492**	**6.8000e-004**	**0.0000**	**2.3663**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.0000e-004	1.0800e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3007	0.3007	1.0000e-005	0.0000	0.3009
Total	**1.6000e-004**	**1.0000e-004**	**1.0800e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3007**	**0.3007**	**1.0000e-005**	**0.0000**	**0.3009**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6200e-003	0.0148	0.0176	3.0000e-005		7.4000e-004	7.4000e-004		6.9000e-004	6.9000e-004	0.0000	2.3492	2.3492	6.8000e-004	0.0000	2.3663
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6200e-003**	**0.0148**	**0.0176**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**2.3492**	**2.3492**	**6.8000e-004**	**0.0000**	**2.3663**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.0000e-004	1.0800e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3007	0.3007	1.0000e-005	0.0000	0.3009
Total	**1.6000e-004**	**1.0000e-004**	**1.0800e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3007**	**0.3007**	**1.0000e-005**	**0.0000**	**0.3009**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0695					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0700**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0167	0.0167	0.0000	0.0000	0.0167
Total	**1.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0167**	**0.0167**	**0.0000**	**0.0000**	**0.0167**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0695					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1000e-004	3.5200e-003	4.5300e-003	1.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0700**	**3.5200e-003**	**4.5300e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0167	0.0167	0.0000	0.0000	0.0167
Total	**1.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0167**	**0.0167**	**0.0000**	**0.0000**	**0.0167**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0150	0.1506	0.1602	9.0000e-004	0.0586	5.2000e-004	0.0591	0.0157	4.9000e-004	0.0162	0.0000	83.5207	83.5207	4.2600e-003	0.0000	83.6273
Unmitigated	0.0150	0.1506	0.1602	9.0000e-004	0.0586	5.2000e-004	0.0591	0.0157	4.9000e-004	0.0162	0.0000	83.5207	83.5207	4.2600e-003	0.0000	83.6273

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	69.70	13.20	6.80	153,691	153,691
Total	69.70	13.20	6.80	153,691	153,691

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.522559	0.030865	0.172639	0.110355	0.015767	0.004611	0.021261	0.112052	0.001779	0.001458	0.005075	0.000925	0.000654

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
NaturalGas Unmitigated	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		**1.1300e-003**	**0.0102**	**8.5900e-003**	**6.0000e-005**		**7.8000e-004**	**7.8000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**11.1370**	**11.1370**	**2.1000e-004**	**2.0000e-004**	**11.2032**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	208700	1.1300e-003	0.0102	8.5900e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1370	11.1370	2.1000e-004	2.0000e-004	11.2032
Total		**1.1300e-003**	**0.0102**	**8.5900e-003**	**6.0000e-005**		**7.8000e-004**	**7.8000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**11.1370**	**11.1370**	**2.1000e-004**	**2.0000e-004**	**11.2032**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	88200	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	88200	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Unmitigated	0.0460	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	**0.0460**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.0000**	**1.9000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	0.0000	1.9000e-004
Total	**0.0460**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.0000**	**1.9000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.7337	0.0754	1.7800e-003	3.1477
Unmitigated	0.7337	0.0754	1.7800e-003	3.1477

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.3125 / 0	0.7337	0.0754	1.7800e-003	3.1477
Total		**0.7337**	**0.0754**	**1.7800e-003**	**3.1477**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.3125 / 0	0.7337	0.0754	1.7800e-003	3.1477
Total		**0.7337**	**0.0754**	**1.7800e-003**	**3.1477**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.5171	0.1488	0.0000	6.2360
Unmitigated	2.5171	0.1488	0.0000	6.2360

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		**2.5171**	**0.1488**	**0.0000**	**6.2360**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	12.4	2.5171	0.1488	0.0000	6.2360
Total		**2.5171**	**0.1488**	**0.0000**	**6.2360**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Keyes TCP Project

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	50.00	1000sqft	1.15	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2019
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Porject includes approximately 50,000 square feet of water treatment facility

Table Name	Column Name	Default Value	New Value

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.6230	2.0457	1.6707	2.9900e-003	0.0396	0.1110	0.1506	0.0145	0.1066	0.1211	0.0000	254.9701	254.9701	0.0463	0.0000	256.1272
Maximum	**0.6230**	**2.0457**	**1.6707**	**2.9900e-003**	**0.0396**	**0.1110**	**0.1506**	**0.0145**	**0.1066**	**0.1211**	**0.0000**	**254.9701**	**254.9701**	**0.0463**	**0.0000**	**256.1272**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.6230	2.0457	1.6707	2.9900e-003	0.0396	0.1110	0.1506	0.0145	0.1066	0.1211	0.0000	254.9699	254.9699	0.0463	0.0000	256.1269
Maximum	**0.6230**	**2.0457**	**1.6707**	**2.9900e-003**	**0.0396**	**0.1110**	**0.1506**	**0.0145**	**0.1066**	**0.1211**	**0.0000**	**254.9699**	**254.9699**	**0.0463**	**0.0000**	**256.1269**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	0.6803	0.6803
2	4-1-2019	6-30-2019	0.6342	0.6342
3	7-1-2019	9-30-2019	0.6412	0.6412
		Highest	0.6803	0.6803

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2301	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Energy	5.6300e-003	0.0512	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	55.6851	55.6851	1.0700e-003	1.0200e-003	56.0160
Mobile	0.1204	1.2288	1.2613	5.0900e-003	0.2932	6.8300e-003	0.3000	0.0789	6.4800e-003	0.0854	0.0000	472.0861	472.0861	0.0331	0.0000	472.9125
Waste						0.0000	0.0000		0.0000	0.0000	12.5854	0.0000	12.5854	0.7438	0.0000	31.1799
Water						0.0000	0.0000		0.0000	0.0000	3.6683	0.0000	3.6683	0.3768	8.9000e-003	15.7384
Total	**0.3562**	**1.2799**	**1.3047**	**5.4000e-003**	**0.2932**	**0.0107**	**0.3039**	**0.0789**	**0.0104**	**0.0893**	**16.2537**	**527.7721**	**544.0258**	**1.1547**	**9.9200e-003**	**575.8478**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2301	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Energy	5.6300e-003	0.0512	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	55.6851	55.6851	1.0700e-003	1.0200e-003	56.0160
Mobile	0.1204	1.2288	1.2613	5.0900e-003	0.2932	6.8300e-003	0.3000	0.0789	6.4800e-003	0.0854	0.0000	472.0861	472.0861	0.0331	0.0000	472.9125
Waste						0.0000	0.0000		0.0000	0.0000	12.5854	0.0000	12.5854	0.7438	0.0000	31.1799
Water						0.0000	0.0000		0.0000	0.0000	3.6683	0.0000	3.6683	0.3768	8.9000e-003	15.7384
Total	**0.3562**	**1.2799**	**1.3047**	**5.4000e-003**	**0.2932**	**0.0107**	**0.3039**	**0.0789**	**0.0104**	**0.0893**	**16.2537**	**527.7721**	**544.0258**	**1.1547**	**9.9200e-003**	**575.8478**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Keyes TCP Project - San Joaquin Valley Unified APCD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	1/28/2019	5	20	
2	Site Preparation	Site Preparation	1/29/2019	1/30/2019	5	2	
3	Grading	Grading	1/31/2019	2/5/2019	5	4	
4	Building Construction	Building Construction	2/6/2019	11/12/2019	5	200	
5	Paving	Paving	11/13/2019	11/26/2019	5	10	
6	Architectural Coating	Architectural Coating	11/27/2019	12/10/2019	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,000; Non-Residential Outdoor: 25,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Keyes TCP Project - San Joaquin Valley Unified APCD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	21.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**		**0.0129**	**0.0129**		**0.0120**	**0.0120**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.2000e-004	4.2700e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9631	0.9631	3.0000e-005	0.0000	0.9639
Total	**6.0000e-004**	**4.2000e-004**	**4.2700e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0500e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9631**	**0.9631**	**3.0000e-005**	**0.0000**	**0.9639**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0230	0.2268	0.1489	2.4000e-004		0.0129	0.0129		0.0120	0.0120	0.0000	21.4161	21.4161	5.4500e-003	0.0000	21.5524
Total	**0.0230**	**0.2268**	**0.1489**	**2.4000e-004**		**0.0129**	**0.0129**		**0.0120**	**0.0120**	**0.0000**	**21.4161**	**21.4161**	**5.4500e-003**	**0.0000**	**21.5524**

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.2000e-004	4.2700e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9631	0.9631	3.0000e-005	0.0000	0.9639
Total	**6.0000e-004**	**4.2000e-004**	**4.2700e-003**	**1.0000e-005**	**1.0400e-003**	**1.0000e-005**	**1.0500e-003**	**2.8000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.9631**	**0.9631**	**3.0000e-005**	**0.0000**	**0.9639**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0195	7.8900e-003	2.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	1.5467	1.5467	4.9000e-004	0.0000	1.5589
Total	**1.7100e-003**	**0.0195**	**7.8900e-003**	**2.0000e-005**	**5.8000e-003**	**8.8000e-004**	**6.6800e-003**	**2.9500e-003**	**8.1000e-004**	**3.7600e-003**	**0.0000**	**1.5467**	**1.5467**	**4.9000e-004**	**0.0000**	**1.5589**

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0593	0.0593	0.0000	0.0000	0.0593
Total	**4.0000e-005**	**3.0000e-005**	**2.6000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0593**	**0.0593**	**0.0000**	**0.0000**	**0.0593**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0195	7.8900e-003	2.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	1.5467	1.5467	4.9000e-004	0.0000	1.5589
Total	**1.7100e-003**	**0.0195**	**7.8900e-003**	**2.0000e-005**	**5.8000e-003**	**8.8000e-004**	**6.6800e-003**	**2.9500e-003**	**8.1000e-004**	**3.7600e-003**	**0.0000**	**1.5467**	**1.5467**	**4.9000e-004**	**0.0000**	**1.5589**

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0593	0.0593	0.0000	0.0000	0.0593
Total	**4.0000e-005**	**3.0000e-005**	**2.6000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0593**	**0.0593**	**0.0000**	**0.0000**	**0.0593**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8400e-003	0.0321	0.0132	3.0000e-005		1.4700e-003	1.4700e-003		1.3600e-003	1.3600e-003	0.0000	2.5336	2.5336	8.0000e-004	0.0000	2.5536
Total	**2.8400e-003**	**0.0321**	**0.0132**	**3.0000e-005**	**9.8300e-003**	**1.4700e-003**	**0.0113**	**5.0500e-003**	**1.3600e-003**	**6.4100e-003**	**0.0000**	**2.5336**	**2.5336**	**8.0000e-004**	**0.0000**	**2.5536**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.3000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**7.0000e-005**	**5.0000e-005**	**5.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1185**	**0.1185**	**0.0000**	**0.0000**	**0.1186**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8400e-003	0.0321	0.0132	3.0000e-005		1.4700e-003	1.4700e-003		1.3600e-003	1.3600e-003	0.0000	2.5336	2.5336	8.0000e-004	0.0000	2.5536
Total	**2.8400e-003**	**0.0321**	**0.0132**	**3.0000e-005**	**9.8300e-003**	**1.4700e-003**	**0.0113**	**5.0500e-003**	**1.3600e-003**	**6.4100e-003**	**0.0000**	**2.5336**	**2.5336**	**8.0000e-004**	**0.0000**	**2.5536**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.3000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1185	0.1185	0.0000	0.0000	0.1186
Total	**7.0000e-005**	**5.0000e-005**	**5.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1185**	**0.1185**	**0.0000**	**0.0000**	**0.1186**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2272	1.5980	1.3487	2.2000e-003		0.0916	0.0916		0.0885	0.0885	0.0000	183.0719	183.0719	0.0352	0.0000	183.9518
Total	**0.2272**	**1.5980**	**1.3487**	**2.2000e-003**		**0.0916**	**0.0916**		**0.0885**	**0.0885**	**0.0000**	**183.0719**	**183.0719**	**0.0352**	**0.0000**	**183.9518**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.9100e-003	0.1067	0.0214	2.3000e-004	5.3000e-003	8.1000e-004	6.1100e-003	1.5300e-003	7.7000e-004	2.3000e-003	0.0000	21.7860	21.7860	1.8200e-003	0.0000	21.8315
Worker	9.7600e-003	6.8600e-003	0.0689	1.7000e-004	0.0168	1.2000e-004	0.0169	4.4600e-003	1.1000e-004	4.5800e-003	0.0000	15.5581	15.5581	5.0000e-004	0.0000	15.5705
Total	**0.0137**	**0.1136**	**0.0904**	**4.0000e-004**	**0.0221**	**9.3000e-004**	**0.0230**	**5.9900e-003**	**8.8000e-004**	**6.8800e-003**	**0.0000**	**37.3441**	**37.3441**	**2.3200e-003**	**0.0000**	**37.4019**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2272	1.5980	1.3487	2.2000e-003		0.0916	0.0916		0.0885	0.0885	0.0000	183.0717	183.0717	0.0352	0.0000	183.9515
Total	**0.2272**	**1.5980**	**1.3487**	**2.2000e-003**		**0.0916**	**0.0916**		**0.0885**	**0.0885**	**0.0000**	**183.0717**	**183.0717**	**0.0352**	**0.0000**	**183.9515**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.9100e-003	0.1067	0.0214	2.3000e-004	5.3000e-003	8.1000e-004	6.1100e-003	1.5300e-003	7.7000e-004	2.3000e-003	0.0000	21.7860	21.7860	1.8200e-003	0.0000	21.8315
Worker	9.7600e-003	6.8600e-003	0.0689	1.7000e-004	0.0168	1.2000e-004	0.0169	4.4600e-003	1.1000e-004	4.5800e-003	0.0000	15.5581	15.5581	5.0000e-004	0.0000	15.5705
Total	**0.0137**	**0.1136**	**0.0904**	**4.0000e-004**	**0.0221**	**9.3000e-004**	**0.0230**	**5.9900e-003**	**8.8000e-004**	**6.8800e-003**	**0.0000**	**37.3441**	**37.3441**	**2.3200e-003**	**0.0000**	**37.4019**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5200e-003	0.0459	0.0445	7.0000e-005		2.6100e-003	2.6100e-003		2.4100e-003	2.4100e-003	0.0000	6.0105	6.0105	1.8700e-003	0.0000	6.0572
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.5200e-003**	**0.0459**	**0.0445**	**7.0000e-005**		**2.6100e-003**	**2.6100e-003**		**2.4100e-003**	**2.4100e-003**	**0.0000**	**6.0105**	**6.0105**	**1.8700e-003**	**0.0000**	**6.0572**

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.1300e-003	1.0000e-005	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4816	0.4816	2.0000e-005	0.0000	0.4819
Total	**3.0000e-004**	**2.1000e-004**	**2.1300e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4816**	**0.4816**	**2.0000e-005**	**0.0000**	**0.4819**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5200e-003	0.0459	0.0445	7.0000e-005		2.6100e-003	2.6100e-003		2.4100e-003	2.4100e-003	0.0000	6.0105	6.0105	1.8700e-003	0.0000	6.0572
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.5200e-003**	**0.0459**	**0.0445**	**7.0000e-005**		**2.6100e-003**	**2.6100e-003**		**2.4100e-003**	**2.4100e-003**	**0.0000**	**6.0105**	**6.0105**	**1.8700e-003**	**0.0000**	**6.0572**

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.1300e-003	1.0000e-005	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4816	0.4816	2.0000e-005	0.0000	0.4819
Total	**3.0000e-004**	**2.1000e-004**	**2.1300e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4816**	**0.4816**	**2.0000e-005**	**0.0000**	**0.4819**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3476					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3300e-003	9.1800e-003	9.2100e-003	1.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	1.2766	1.2766	1.1000e-004	0.0000	1.2793
Total	**0.3490**	**9.1800e-003**	**9.2100e-003**	**1.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.1000e-004**	**0.0000**	**1.2793**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	6.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1482	0.1482	0.0000	0.0000	0.1483
Total	**9.0000e-005**	**7.0000e-005**	**6.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1482**	**0.1482**	**0.0000**	**0.0000**	**0.1483**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3476					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3300e-003	9.1800e-003	9.2100e-003	1.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	1.2766	1.2766	1.1000e-004	0.0000	1.2793
Total	**0.3490**	**9.1800e-003**	**9.2100e-003**	**1.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.1000e-004**	**0.0000**	**1.2793**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	6.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1482	0.1482	0.0000	0.0000	0.1483
Total	**9.0000e-005**	**7.0000e-005**	**6.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1482**	**0.1482**	**0.0000**	**0.0000**	**0.1483**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1204	1.2288	1.2613	5.0900e-003	0.2932	6.8300e-003	0.3000	0.0789	6.4800e-003	0.0854	0.0000	472.0861	472.0861	0.0331	0.0000	472.9125
Unmitigated	0.1204	1.2288	1.2613	5.0900e-003	0.2932	6.8300e-003	0.3000	0.0789	6.4800e-003	0.0854	0.0000	472.0861	472.0861	0.0331	0.0000	472.9125

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	348.50	66.00	34.00	768,457	768,457
Total	348.50	66.00	34.00	768,457	768,457

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.492402	0.034496	0.167383	0.136948	0.023406	0.006040	0.021602	0.106741	0.001802	0.001770	0.005495	0.001006	0.000911

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	5.6300e-003	0.0512	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	55.6851	55.6851	1.0700e-003	1.0200e-003	56.0160
NaturalGas Unmitigated	5.6300e-003	0.0512	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	55.6851	55.6851	1.0700e-003	1.0200e-003	56.0160

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.0435e+006	5.6300e-003	0.0512	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	55.6851	55.6851	1.0700e-003	1.0200e-003	56.0160
Total		**5.6300e-003**	**0.0512**	**0.0430**	**3.1000e-004**		**3.8900e-003**	**3.8900e-003**		**3.8900e-003**	**3.8900e-003**	**0.0000**	**55.6851**	**55.6851**	**1.0700e-003**	**1.0200e-003**	**56.0160**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.0435e+006	5.6300e-003	0.0512	0.0430	3.1000e-004		3.8900e-003	3.8900e-003		3.8900e-003	3.8900e-003	0.0000	55.6851	55.6851	1.0700e-003	1.0200e-003	56.0160
Total		**5.6300e-003**	**0.0512**	**0.0430**	**3.1000e-004**		**3.8900e-003**	**3.8900e-003**		**3.8900e-003**	**3.8900e-003**	**0.0000**	**55.6851**	**55.6851**	**1.0700e-003**	**1.0200e-003**	**56.0160**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	441000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	441000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2301	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Unmitigated	0.2301	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0348					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1953					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Total	**0.2301**	**0.0000**	**4.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**8.9000e-004**	**8.9000e-004**	**0.0000**	**0.0000**	**9.5000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0348					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1953					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.9000e-004	8.9000e-004	0.0000	0.0000	9.5000e-004
Total	**0.2301**	**0.0000**	**4.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**8.9000e-004**	**8.9000e-004**	**0.0000**	**0.0000**	**9.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.6683	0.3768	8.9000e-003	15.7384
Unmitigated	3.6683	0.3768	8.9000e-003	15.7384

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	11.5625 / 0	3.6683	0.3768	8.9000e-003	15.7384
Total		**3.6683**	**0.3768**	**8.9000e-003**	**15.7384**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	11.5625 / 0	3.6683	0.3768	8.9000e-003	15.7384
Total		**3.6683**	**0.3768**	**8.9000e-003**	**15.7384**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	12.5854	0.7438	0.0000	31.1799
Unmitigated	12.5854	0.7438	0.0000	31.1799

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	62	12.5854	0.7438	0.0000	31.1799
Total		**12.5854**	**0.7438**	**0.0000**	**31.1799**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	62	12.5854	0.7438	0.0000	31.1799
Total		**12.5854**	**0.7438**	**0.0000**	**31.1799**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Keyes TCP Project Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.24	10.20	14.24	5.61	0.61	5.00	1.59	0.55	1.04	0.02	2,182.00	0.59	0.02	2,203.77
Grading/Excavation	7.05	55.31	76.62	8.74	3.74	5.00	4.44	3.40	1.04	0.10	9,794.75	2.85	0.09	9,893.99
Drainage/Utilities/Sub-Grade	4.14	34.02	40.56	7.21	2.21	5.00	3.09	2.05	1.04	0.06	5,698.30	1.20	0.05	5,744.62
Paving	1.79	17.68	17.81	1.10	1.10	0.00	0.99	0.99	0.00	0.03	2,844.42	0.75	0.03	2,872.23
Maximum (pounds/day)	7.05	55.31	76.62	8.74	3.74	5.00	4.44	3.40	1.04	0.10	9,794.75	2.85	0.09	9,893.99
Total (tons/construction project)	0.31	2.49	3.23	0.45	0.16	0.28	0.21	0.15	0.06	0.00	432.77	0.11	0.00	436.88

Notes:

Project Start Year ->	2019
Project Length (months) ->	6
Total Project Area (acres) ->	1
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	200	40
Grading/Excavation	0	0	0	0	800	40
Drainage/Utilities/Sub-Grade	0	0	0	0	560	40
Paving	0	0	0	0	400	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Keyes TCP Project Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.07	0.09	0.04	0.00	0.03	0.01	0.00	0.01	0.00	14.40	0.00	0.00	13.20
Grading/Excavation	0.19	1.46	2.02	0.23	0.10	0.13	0.12	0.09	0.03	0.00	258.58	0.08	0.00	236.96
Drainage/Utilities/Sub-Grade	0.10	0.79	0.94	0.17	0.05	0.12	0.07	0.05	0.02	0.00	131.63	0.03	0.00	120.39
Paving	0.02	0.18	0.18	0.01	0.01	0.00	0.01	0.01	0.00	0.00	28.16	0.01	0.00	25.80
Maximum (tons/phase)	0.19	1.46	2.02	0.23	0.10	0.13	0.12	0.09	0.03	0.00	258.58	0.08	0.00	236.96
Total (tons/construction project)	0.31	2.49	3.23	0.45	0.16	0.28	0.21	0.15	0.06	0.00	432.77	0.11	0.00	396.34

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Appendix B

Updated Biological Resource Evaluation

BIOLOGICAL RESOURCE EVALUATION

December 2021

KEYES 1,2,3-TCP MITIGATION PROJECT
STANISLAUS COUNTY, CALIFORNIA

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Executive Summary

The proposed project (Project) will involve the Keyes Community Services District (District) constructing three water treatment systems and connecting pipeline between two existing wells to meet statewide water quality standards and water supply demands established by the State Water Resources Control Board Division of Drinking Water. The District's proposal outlines two project components. First, the District proposes to construct 1,2,3-Trichloropropane (TCP) treatment systems using Granular Activated Carbon (GAC) at Well 8, Well 9, and Well 10. This component will also involve installing a 50,000-gallon backwash tank at Well 8 and Well 10 and a 150,000-gallon backwash pond at Well 9. Second, the District proposes to construct 2532 linear feet of 6-inch pipeline to convey groundwater from Well 7 to the GAC treatment system at Well 10. The purpose of this Project is to remove harmful levels of TCP, an impurity in certain pesticides and a known carcinogen, from the District's water supply and ultimately eliminate public exposure to TCP in drinking water.

The District will obtain financing for the Project from the Drinking Water State Revolving Fund (DWSRF). The DWSRF is a state and federal partnership that helps ensure safe drinking water. It is administered by the State of California and partially funded by the United States Environmental Protection Agency. Consequently, the Project must not only meet environmental documentation and review requirements under the California Environmental Quality Act (CEQA) but must meet such requirements with respect to certain federal laws and regulations as well. This state and federal review process is known as CEQA-Plus.

To evaluate whether the Project may affect biological resources under CEQA-Plus purview, we (1) obtained official lists from the United States Fish and Wildlife Service and the California Department of Fish and Wildlife of special-status species and designated and proposed critical habitat, (2) reviewed other relevant background information such as aerial images and topographic maps, and (3) conducted a field reconnaissance survey of the Project site.

This biological resource evaluation summarizes (1) existing biological conditions on the Project site, (2) the potential for special-status species and regulated habitats to occur on or near the Project site, (3) the potential impacts of the proposed Project on biological resources and regulated habitats, and (4) measures to reduce those potential impacts to a less-than-significant level under CEQA.

We concluded the Project will not affect regulated habitats, but could affect one special-status species, the state-listed as threatened Swainson's hawk (*Buteo swainsoni*). Nesting migratory birds could also be impacted. However, impacts to all species can be reduced to less-than-significant levels with mitigation.

Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
DWSRF	Drinking Water State Revolving Fund
EFH	Essential Fish Habitat
FE	Federally listed as Endangered
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FT	Federally listed as Threatened
GAC	Granulated Activated Carbon
GPM	Gallons Per Minute
MBTA	Migratory Bird Treaty Act
MCL	Maximum Containment Level
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Association
NRCS	Natural Resources Conservation Science
RWQCB	Regional Water Quality Control Board
SE	State listed as Endangered
SR	State listed as Rare
SSSC	State Species of Special Concern
ST	State listed as Threatened
SWRCB	State Water Resources Control Board
TCP	1,2,3-Trichloropropane
µg/L	Micrograms per Liter
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

1.1 Background

The Keyes Community Services District (District) proposes to install water treatment systems and connecting pipelines at three wells (the Project) to remove the pesticide contaminate 1,2,3-Trichloropropane (TCP) from its water supply.

Because the Project is partially funded by the Drinking Water State Revolving Fund (DWSRF), the Project will constitute a federal action. Consequently, the environmental review for the Project must meet state requirements under the California Environmental Quality Act (CEQA) as well as certain federal requirements. To comply with the applicable federal statues and authorities, the EPA established specific "CEQA-Plus" requirements in its operating agreement with the State Water Resources Control Board (SWRCB), which administers the DWSRF program.

The purpose of this biological resource evaluation is to assess whether the Project will affect state or federally protected resources pursuant to CEQA-Plus guidelines. Such resources include species of plants or animals listed or proposed for listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA), as well as those covered under the Migratory Bird Treaty Act (MBTA), the California Native Plant Protection Act, and various other sections of California Fish and Game Code. Biological resources considered here also include designated or proposed critical habitat recognized under the FESA. This biological resource evaluation also addresses Project-related impacts to regulated habitats, which are those under the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or California Department of Fish and Wildlife (CDFW), as well as those addressed under the Wild and Scenic Rivers Act, Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), and Executive Order 11988 pertaining to floodplain management.

1.2 Project Description

The Project includes two components:

1. *Granular Activated Carbon (GAC) Treatment at Well 8, Well 9, and Well 10*. This component will centralize TCP treatment at Wells 8, 9, and 10. It will involve constructing two trains of GAC vessels at Well 8, three trains at Well 9, and four trains at Well 10. A 50,000-gallon backwash tank will be constructed at Well 8 and Well 10, and a 150,000-gallon backwash pond will be constructed at Well 9.

2. *Water Transport from Well 7 to Well 10*. Because physical space at Well 7 cannot accommodate GAC infrastructure, this component will involve conveying raw ground

water from Well 7 to Well 10 for TCP treatment. Approximately 2532 linear feet of 6-inch pipeline will be installed below existing roads between Well 7 and Well 10.

1.3 Project Location

The Project is in the San Joaquin Valley within the city limits of Keyes in central Stanislaus County, California (Figure 1), at an elevation of 99–102 feet above mean sea level (Google 2021). The locations of the two components are as follows:

1. *Granular Activated Carbon (GAC) Treatment at Well 8, Well 9, and Well 10*. Well 8 is at the intersection of Martha Avenue and 9th Street in a residential area; Well 9 is on the west side of Faith Home Road in an almond orchard, about 0.2 miles west of Highway 99; and Well 10 is on the north side of Lucinda Avenue in a fenced and paved lot (Figure 2).

2. *Water Transport from Well 7 to Well 10*. This component extends from Well 7, which is at the eastern terminus of Maude Avenue adjacent to a public park and residential area, to Well 10. The planned alignment extends from Well 7 on a dirt road northwest to Jennie Avenue, north to Lucinda Avenue, and east to Well 10 (Figure 2).

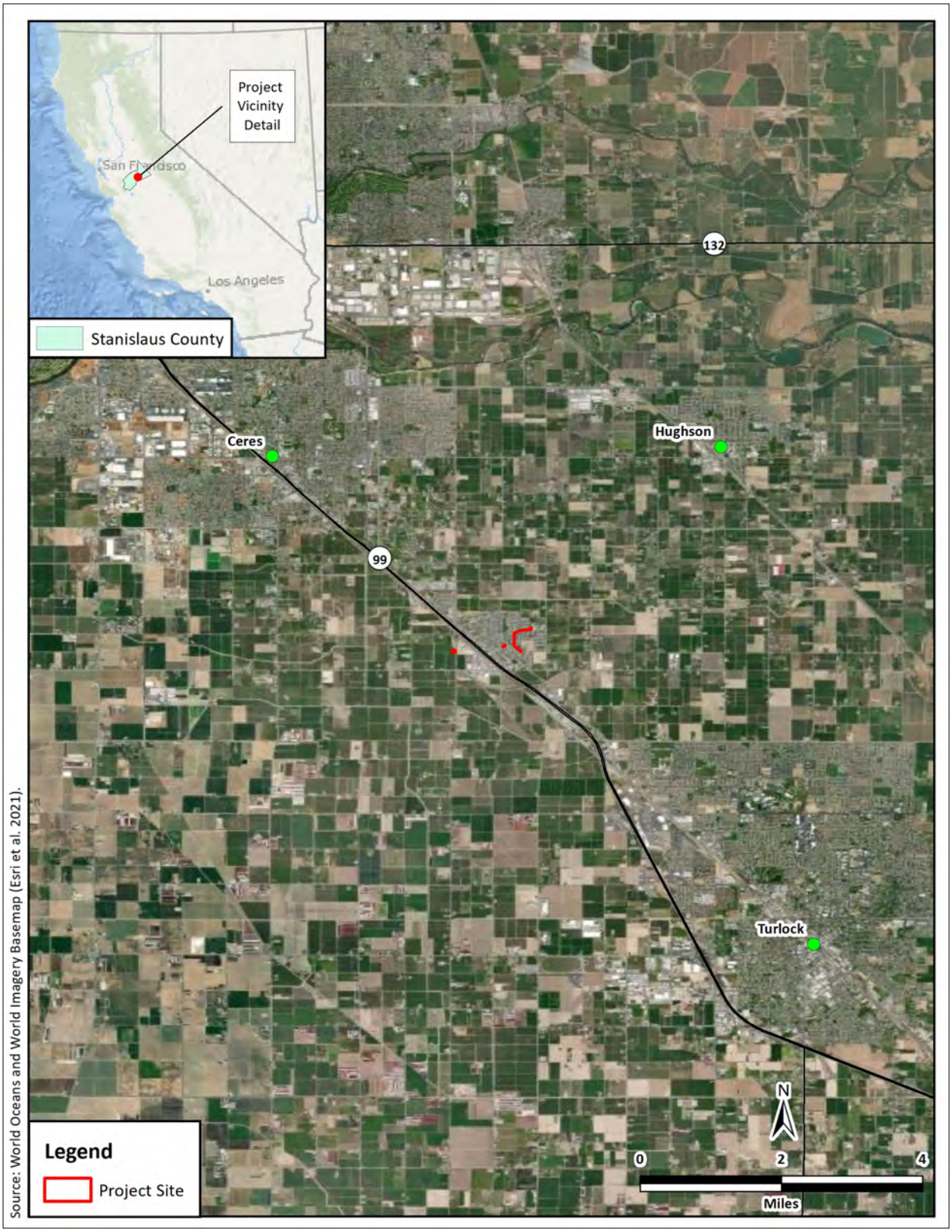

Figure 1. Project site vicinity map.

Figure 2. Project site map.

1.4 Purpose and Need of Proposed Project

The purpose of the Project is to remove TCP from the District's water supply to a point below the Maximum Containment Level (MCL) of 0.005 µg/L. The Project is needed to meet statewide drinking water standards established by the State Water Resources Control Board Division of Drinking Water.

1.5 Consultation History

Lists of all species listed or proposed for listing as threatened or endangered and all designated or proposed critical habitat under the FESA that could occur near the Project site were obtained by Colibri Senior Scientist Joshua Reece from the United States Fish and Wildlife Service (USFWS) website (https://ecos.fws.gov/ipac/) on 10 December 2021 (Appendix A).

1.6 Regulatory Framework

The relevant regulatory requirements and policies that guide the impact analysis of the Project are summarized below.

1.6.1 Federal Requirements

Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act (16 USC § 668-668d), originally the Bald Eagle Protection Act, was enacted in 1940 to protect bald eagle (*Haliaeetus leucocephalus*), the species selected as a national emblem of the United States. The act was amended in 1962 to include the golden eagle (*Aquila chrysaetos*). As amended, the Act prohibits take, possession, and commerce of bald and golden eagles and their parts, products, nests, or eggs, except by valid permit. Take is defined as "*pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.*" Disturb means agitating or bothering to a degree that causes, or is likely to cause, injury, a decrease in productivity, or nest abandonment. This law also prohibits human-induced alterations near previously used nest sites when eagles are not present if upon the eagle's return it is disturbed as defined above. Take permits may be issued for conducting certain types of lawful activities such as scientific research, propagation, and Indian religious purposes. The USFWS is responsible for enforcing this act.

Executive Order 11988: Floodplain Management. Executive Order 11988 (42 Federal Register 26951, 3 CFR, 1977 Comp., p. 117) requires federal agencies to avoid to the extent possible the long-term and short-term adverse effects associated with occupying and modifying flood plains and to avoid direct and indirect support of developing floodplains wherever there is a practicable alternative.

Federal Endangered Species Act. The United States Fish and Wildlife Service (USFWS) and the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries

Service (NMFS) enforce the provisions stipulated in the Federal Endangered Species Act of 1973 (FESA, 16 United States Code [USC] § 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the project site and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC § 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

Magnuson-Stevens Fishery Conservation and Management Act. The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (Public law 94-265; Statutes at Large 90 Stat. 331; 16 U.S.C. ch. 38 § 1801 et seq.) establishes a management system for national marine and estuarine fishery resources. This legislation requires that all federal agencies consult the NMFS regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect "essential fish habitat (EFH)." EFH is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The Magnuson-Stevens Act states that migratory routes to and from anadromous fish spawning grounds are considered EFH. The phrase "adversely affect" refers to any effect that reduces the quality or quantity of EFH. Federal activities that occur outside of EFH, but which may affect EFH must also be considered. The Act applies to salmon species, groundfish species, highly migratory species such as tuna, and coastal pelagic species such as anchovies.

Migratory Bird Treaty Act. The federal Migratory Bird Treaty Act (MBTA) (16 USC § 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. "Take" is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC § 703 and § 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an "active nest." However, the "Migratory Bird Permit Memorandum" issued by the USFWS in 2003 and updated in 2018 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction (USFWS 2018).

National Environmental Policy Act. The purposes of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. §§ 4321–4347), including all relevant subsequent guidelines and regulations, include encouraging "harmony between [humans] and their

environment and promoting efforts which will prevent or eliminate damage to the environment… and stimulate the health and welfare of [humanity]". The purposes of NEPA are accomplished by evaluating the effects of federal actions. The results of these evaluations are presented to the public, federal agencies, and public officials in document format (e.g., Environmental Assessments and Environmental Impact Statements) for consideration prior to taking official action or making official decisions. Environmental documents prepared pursuant to NEPA must be completed before federal actions can be implemented. The NEPA process requires careful evaluation of the need for action, and that federal actions be considered alongside all reasonable alternatives, including the No Action alternative. NEPA also requires that the potential impacts on the human environment be considered for each alternative. Detailed implementing regulations for NEPA are contained in 40 C.F.R. 1500 et seq.

United States Army Corps of Engineers Jurisdiction. Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3). Ditches and drainage canals where water flows intermittently or ephemerally are not regulated as waters of the United States. Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement (USACE 1987 and 2008). Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

Wild and Scenic Rivers Act. The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with significant natural, cultural, and recreational values in a free-flowing condition. The Act safeguards the special character of these rivers, while also recognizing the potential for their appropriate use and development.

1.6.2 State Requirements

California Department of Fish and Wildlife Jurisdiction. The CDFW has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from

the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code Section 1602.

California Endangered Species Act. The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq., and California Code of Regulations [CCR] Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the CDFW when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state-listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special-status species. CDFW can authorize take of state-listed species under Sections 2080.1 and 2081(b) of the California Fish and Game Code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code § 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed Project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

California Environmental Quality Act. The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity (CNPS 2020). Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare and endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a

species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

California Native Plant Protection Act. The California Native Plant Protection Act of 1977 (California Fish and Game Code §§ 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting birds. California Fish and Game Code Sections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are "Fully Protected" as those that may not be taken or possessed except under specific permit.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act (CWC § 13000 et. sec.) was established in 1969 and entrusts the State Water Resources Control Board and nine Regional Water Quality Control Boards (collectively Water Boards) with the responsibility to preserve and enhance all beneficial uses of California's diverse waters. The Act grants the Water Boards authority to establish water quality objectives and regulate point- and nonpoint-source pollution discharge to the state's surface and ground waters. Under the auspices of the United States Environmental Protection Agency, the Water Boards are responsible for certifying, under Section 401 of the federal Clean Water Act, that activities affecting waters of the United States comply California water quality standards. The Porter-Cologne Water Quality Control Act addresses all "waters of the State," which are more broadly defined than waters of the Unites States. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. They include artificial as well as natural water bodies and federally jurisdictional and federally non-jurisdictional waters. The Water Boards may issue a Waste Discharge Requirement permit for projects that will affect only federally non-jurisdictional waters of the State.

2.0 Methods

2.1 Desktop Review

We obtained a USFWS species list for the Project site as a framework for the evaluation and reconnaissance survey (USFWS 2021a, Appendix A). In addition, we searched the California Natural Diversity Data Base (CDFW 2021, Appendix B) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2021, Appendix C) for records of special-status plant and animal species from the vicinity of the Project site. Regional lists of special-status species were compiled using USFWS, CNDDB, and CNPS database searches confined to the Ceres 7.5-minute United States Geological Survey (USGS) topographic quadrangle, which encompasses the Project site, and the eight surrounding quadrangles (Brush Lake, Crows Landing, Denair, Hatch, Riverbank, Salida, Turlock, and Waterford). A local list of special-status species was compiled using CNDDB records from within 5 miles of the Project site. Species that lack a special-status designation by federal or state regulatory agencies or public interest groups were omitted from the final list. Species for which the Project site does not provide habitat were eliminated from further consideration. We also reviewed aerial imagery from Google Earth (Google 2021) and other sources, USGS topographic maps, the Web Soil Survey (NRCS 2021), the National Wetlands Inventory (USFWS 2021b), the National Wild and Scenic Rivers System (USFWS 2021c), Federal Emergency Management Agency (FEMA 2021) flood maps, and relevant literature.

2.2 Reconnaissance Survey

Colibri Senior Scientist Joshua Reece conducted a field reconnaissance survey of the Project site on 13 December 2021. The Project site and a 50-foot buffer surrounding the Project site were walked and thoroughly inspected to evaluate and document the potential for the area to support federally protected resources. The survey area also included a 0.5-mile buffer around the Project site to evaluate the potential occurrence of nesting special-status raptors (Figure 3). The 0.5-mile buffer was surveyed by driving public roads and identifying the presence of large trees or other potentially suitable substrates for nesting raptors as well as open areas that could provide foraging habitat. The main survey area, including the Project site and surrounding 50-foot buffer, was evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the *Wetlands Delineation Manual* and regional supplement (USACE 1987, 2008) and as defined by the CDFW (https://www.wildlife.ca.gov/conservation/lsa) and under the Porter-Cologne Water Quality Control Act. All plants except those planted for cultivation or landscaping and all vertebrate wildlife species observed in the survey area were identified and documented.

2.3 Effects Analysis and Significance Criteria

2.3.1 Effects Analysis

Factors considered in evaluating the effects of the Project on special-status species included the (1) presence of designated or proposed critical habitat in the survey area, (2) potential for the survey area to support special-status species, (3) dependence of any such species on specific habitat components that would be removed or modified, (4) the degree of effects to the habitat, (5) abundance and distribution of the habitat in the region, (6) distribution and population levels of the species, (7) cumulative effects of the Project and any future activities in the area, and (8) the potential to mitigate any adverse effects.

Factors considered in evaluating the effects of the Project on bald eagle, golden eagle, and migratory birds included the potential for the Project to result in (1) mortality of eagles or migratory birds or (2) loss of their nests containing viable eggs or nestlings.

Factors considered in evaluating the effects of the Project on regulated habitats included the (1) presence of features comprising or potentially comprising waters of the United States, Wild and Scenic Rivers, essential fish habitat (EFH), floodplains, and lakes or streams within the survey area, and (2) potential for the Project to affect such habitats.

2.3.2 Significance Criteria

CEQA defines "significant effect on the environment" as "a substantial, or potentially substantial, adverse change in the environment" (Pub. Res. Code § 21068). Under CEQA Guidelines Section 15065, a Project's effects on biological resources are deemed significant where the Project would do the following:

a) Substantially reduce the habitat of a fish or wildlife species,
b) Cause a fish or wildlife population to drop below self-sustaining levels,
c) Threaten to eliminate a plant or animal community, or
d) Substantially reduce the number or restrict the range of a rare or endangered plant or animal.

In addition to the Section 15065 criteria, Appendix G within the CEQA Guidelines includes six additional impacts to consider when analyzing the effects of a project. Under Appendix G, a project's effects on biological resources are deemed significant where the project would do any of the following:

e) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

f) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

g) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

h) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

i) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

j) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These criteria were used to determine whether the potential effects of the Project on biological resources qualify as significant.

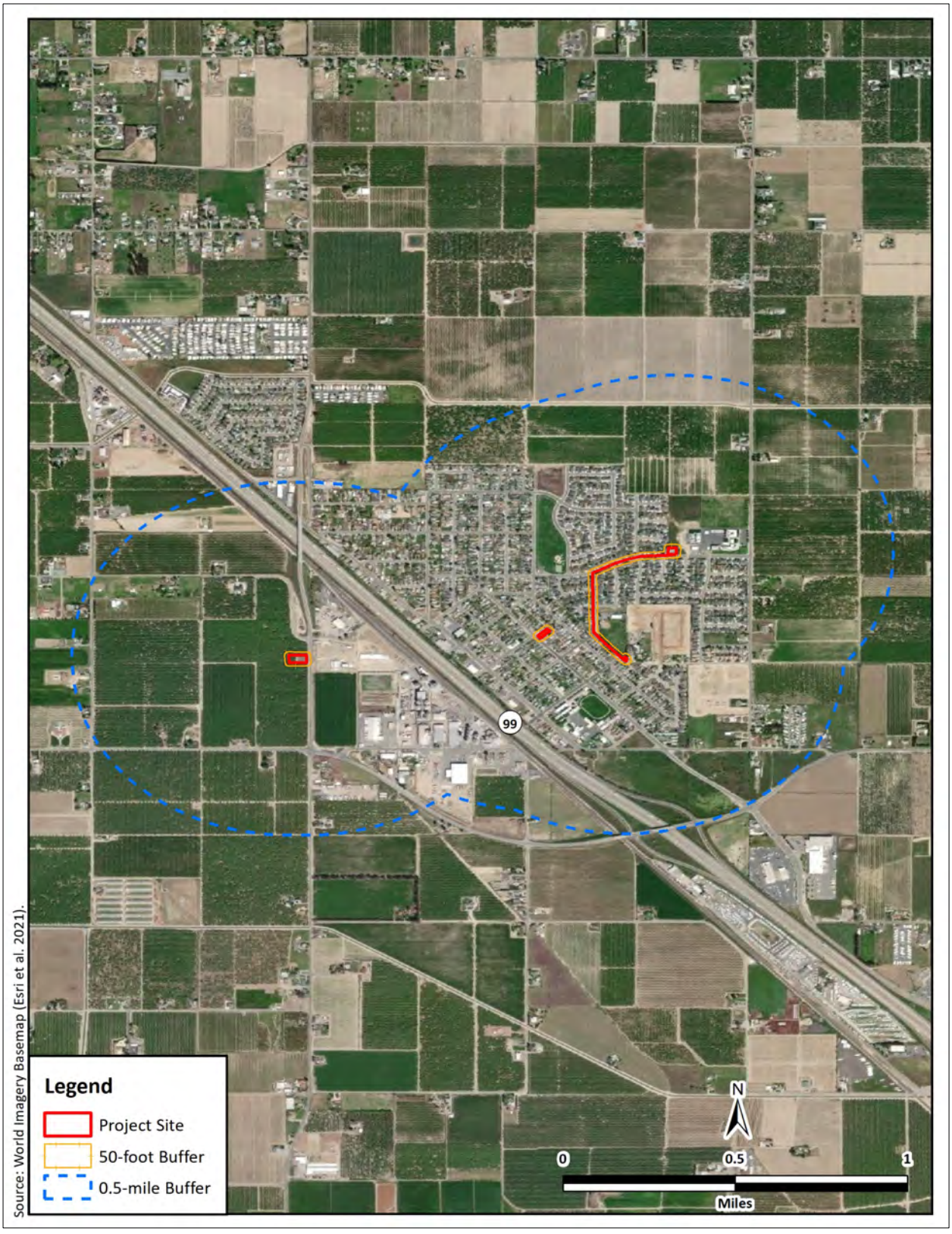

Figure 3. Reconnaissance survey area map.

3.0 Results

3.1 Desktop Review

The USFWS species list for the Project (USFWS 2021a, Table 1, Appendix A) included eight species listed as threatened or endangered under the FESA. None of those species could occur on or near the Project site because the area lacks habitat for these species or is outside of their current known range (Table 1). As identified in the species list (USFWS 2021a, Appendix A), the Project site does not occur in USFWS-designated Critical Habitat for any species under the jurisdiction of the USFWS.

Searching the CNDDB (CNDDB 2021) for records of special-status species from the Ceres 7.5-minute USGS topographic quadrangle and the eight surrounding quadrangles produced 92 records of 37 species (Table 1, Appendix B). Of those 37 species, 10 were not considered further because they are not recognized as special-status species by state or federal regulatory agencies or public interest groups or are considered extirpated in California. Of the remaining 27 species, eight are known from within 5 miles of the Project site (Table 1, Figure 4). Of those species, only Swainson's hawk (*Buteo swainsoni* – ST) has a potential to occur on or within 0.5 miles of the Project site.

Searching the CNPS Inventory of rare and endangered plants of California yielded 13 species (CNPS 2021, Appendix C), one of which has a CRPR of 2B, and 12 of which have a CRPR of 1B (Table 1). None of those 13 species are expected to occur on or near the Project site due to the lack of habitat (Table 1).

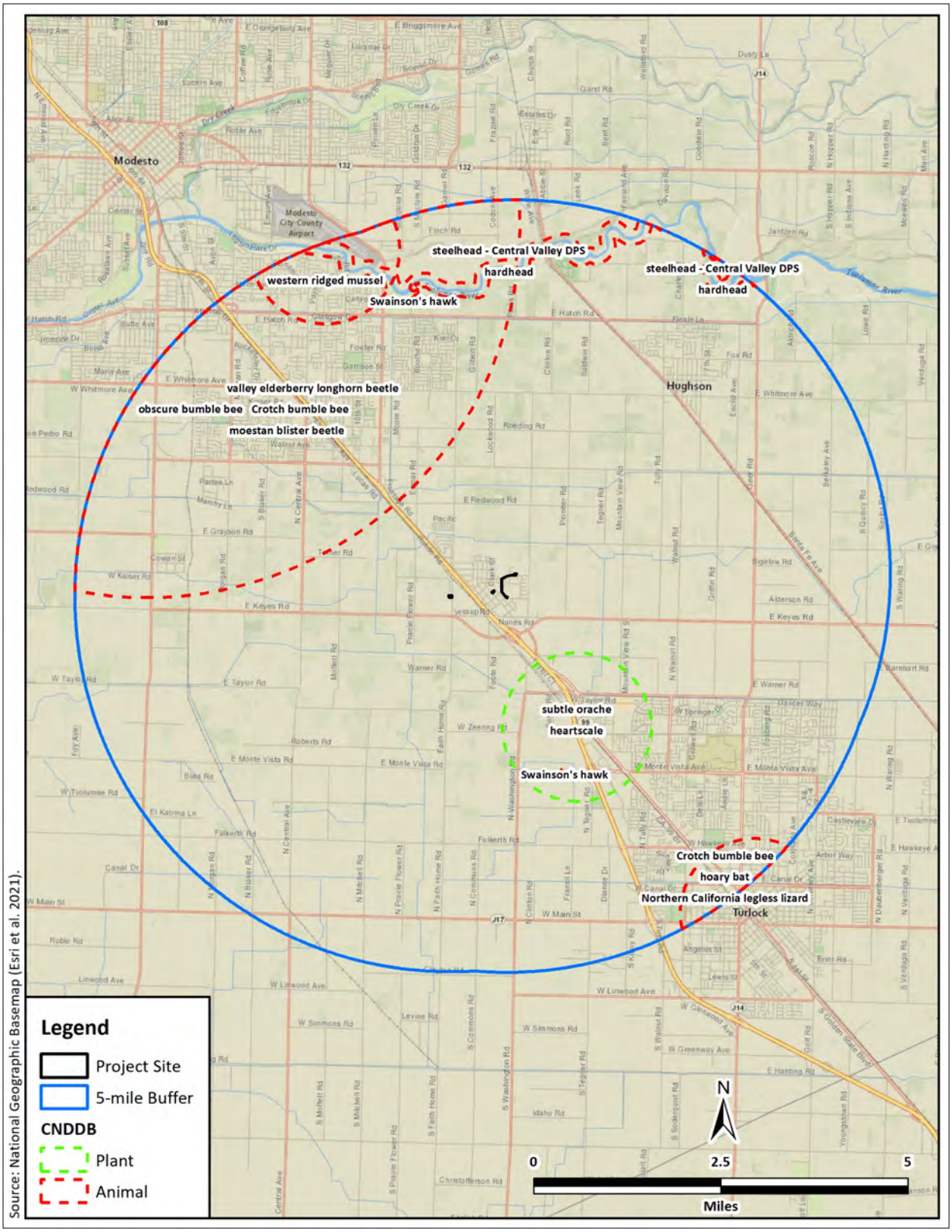

Figure 4. CNDDB occurrence map.

Table 1. Special-status species, their listing status, habitats, and potential to occur on or near the Project site.

Species	Status[1]	Habitat	Potential to Occur[2]
Federally and State-Listed Endangered or Threatened Species			
Colusa grass (*Neostapfia colusana*)	FT, SE, 1B.1	Vernal pools and depressions below 410 feet elevation.	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.
Delta button-celery (*Eryngium racemosum*)	SE, 1B.1	Seasonally flooded clay depressions in floodplains at 9–90 feet elevation.	**None.** Habitat lacking; the Project site lacked seasonally flooded clay depressions.
Greene's tuctoria (*Tuctoria greenei*)	FE, SR, 1B.1	Vernal pools in open grasslands below 3445 feet elevation.	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, SE, 1B.1	Vernal pools at or below 2700 feet elevation.	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.
Monarch butterfly (*Danaus plexippus*)	FCE	Groves of trees within 1.5 miles of the ocean that produce suitable micro-climates for overwintering such as high humidity, dappled sunlight, access to water and nectar, and protection from wind.	**None.** Habitat lacking; the Project site is greater than 1.5 miles from the ocean.
Valley elderberry longhorn beetle[3] (*Desmocerus californicus dimorphus*)	FT	Elderberry (*Sambucus* sp.) plants with stems > 1-inch diameter at ground level.	**None.** Habitat lacking; no elderberry plants were present in the survey area.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools; some artificial depressions, stock ponds, vernal swales, ephemeral	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.

		drainages, and seasonal wetlands.	
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Vernal pools, clay flats, alkaline pools, and ephemeral stock tanks.	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	River channels and tidally influenced sloughs.	**None.** Habitat lacking; Project site lacked connectivity to the aquatic habitat this species requires.
Steelhead trout – Central Valley Distinct Population Segment[3] (*Oncorhynchus mykiss irideus*)	FT	Streams with adequate flows in coastal watersheds from Shasta County south to the San Joaquin-Merced River confluence.	**None.** Habitat lacking; Project site lacked connectivity to the aquatic habitat this species requires.
California red-legged frog (*Rana draytonii*)	FT, SSSC	Creeks, ponds, and marshes for breeding; burrows for upland refuge.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal pools or seasonal ponds for breeding; small mammal burrows for upland refugia in natural grasslands.	**None**. Habitat lacking; the Project site lacked natural grasslands.
Giant garter snake (*Thamnophis gigas*)	FT, ST	Marshes, sloughs, ponds, or other permanent sources of water with emergent vegetation, and grassy banks or open areas during active season; uplands with underground refuges or crevices during inactive season.	**None.** Habitat lacking; the Project site lacked suitable aquatic features.

Least Bell's vireo (*Vireo bellii pusillus*)	FE, SE	Riparian forest with dense understory; < 650 ft elevation.	**None.** Habitat lacking; Project site did not support riparian vegetation.
Swainson's hawk[3] (*Buteo swainsoni*)	ST	Large trees for nesting with adjacent grasslands, alfalfa fields, or grain fields for foraging.	**Low.** Potential nest trees within survey area, but foraging habitat is limited.
Tricolored blackbird (*Agelaius tricolor*)	ST	Freshwater emergent wetlands, agricultural fields, irrigated pastures, grassland, silage fields near dairies.	**None.** Habitat lacking; no suitable aquatic resources or suitable agricultural land in the survey area.
State Species of Special Concern			
Hardhead[3] (*Mylopharodon conocephalus*)	SSSC	Undisturbed areas of larger streams with high water quality.	**None.** Habitat lacking; Project site lacked streams or rivers.
Sacramento splittail (*Pogonichthys macrolepidotus*)	SSSC	Estuaries and rivers, flooded vegetation for spawning and rearing.	**None.** Habitat lacking; Project site lacked suitable aquatic features.
Northern California legless lizard[3] (*Anniella pulchra*)	SSSC	Moist warm loose soil with plant cover in beach dunes, chaparral, pine-oak woodlands, sandy areas and stream terraces.	**None.** Habitat lacking; Project site consisted of urban and agricultural landcover.
Northwestern pond turtle (*Actinemys marmorata*)	SSSC	Ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation and woody debris for basking and adjacent natural upland areas for egg laying.	**None.** Habitat lacking; Project site lacked suitable aquatic features.

Burrowing owl (*Athene cunicularia*)	SSSC	Grassland and upland scrub with friable soil; some agricultural or other developed and disturbed areas with ground-squirrel burrows.	**None.** Habitat lacking; the survey area consisted of dense urban and incompatible agricultural (orchard) landcover; no burrows or burrow surrogates were found in the survey area.
Townsend's big-eared bat[3] (*Corynorhinus townsendii*)	SSSC	Open buildings, caves, or mines for roosting in a variety of habitats including cismontane woodland and low elevation conifer forest.	**None.** Habitat lacking; the survey area consisted of dense urban and agricultural landcover.
California Rare Plants			
Alkali-sink goldfields (*Lasthenia chrysantha*)	1B.1	Vernal pools and wet saline flats below 320 feet elevation.	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.
Alkali milk-vetch (*Astragalus tener* var. *tener*)	1B.2	Alkaline flats, vernally moist meadows below 200 feet elevation.	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.
Beaked clarkia (*Clarkia rostrata*)	1B.3	Cismontane woodland and valley and foothill grassland 195–1640 feet elevation.	**None.** Habitat lacking; the survey area consisted of dense urban and agricultural landcover and is outside of the elevational range of this species.
California alkali grass (*Puccinellia simplex*)	1B.2	Scrub, meadows, seeps, grassland, vernal pools, saline flats, and mineral springs below 3000 feet elevation.	**None.** Habitat lacking; the survey area consisted of dense urban and agricultural landcover.
Heartscale[3] (*Atriplex cordulata* var. *cordulata*)	1B.2	Saline or alkaline soils in grassland, meadows and seeps, and chenopod scrub	**None.** Habitat lacking; the survey area consisted of dense urban and agricultural landcover.

		communities below 230 feet elevation.	
Lesser saltscale (*Atriplex minuscula*)	1B.1	Sandy alkaline soils in chenopod scrub, playa, and grassland in the San Joaquin Valley below 328 feet elevation.	**None.** Habitat lacking; the survey area consisted of dense urban and agricultural landcover.
Prairie wedge grass (*Sphenopholis obtusata*)	2B.2	Wet meadows, streambanks, ponds.	**None.** Habitat lacking; the survey area consisted of dense urban and agricultural landcover.
Subtle orache[3] (*Atriplex subtilis*)	1B.2	Saline depressions below 230 feet elevation.	**None.** Habitat lacking; the survey area consisted of dense urban and agricultural landcover and lacked saline depressions.
Vernal pool smallscale (*Atriplex persistens*)	1B.2	Alkaline vernal pools in the Central Valley below 377 feet elevation.	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.

Status[1]	**Potential to Occur[2]**	
FE = Federally listed Endangered	None:	Species or sign not observed; conditions unsuitable for occurrence.
FT = Federally listed Threatened	Low:	Neither species nor sign observed; conditions marginal for occurrence.
SE = State listed Endangered	Moderate:	Neither species nor sign observed; conditions suitable for occurrence.
ST = State listed Threatened	High:	Neither species nor sign observed; conditions highly suitable for occurrence.
SR = State listed Rare	Present:	Species or sign observed; conditions suitable for occurrence.
SSSC = State Species of Special Concern		

CNPS California Rare Plant Rank[1]:	**Threat Ranks[1]:**
1B – plants rare, threatened, or endangered in California and elsewhere.	0.1 – seriously threatened in California (> 80% of occurrences).
2B – plants rare, threatened, or endangered in California but more common elsewhere.	0.2 – moderately threatened in California (20-80% of occurrences).
3 – plants about which more information is needed.	0.3 – not very threatened in California (<20% of occurrences).

CNPS California Rare Plant Rank[1]:	Threat Ranks[1]:
4 – plants have limited distribution in California.	

[3]Record from within 5 miles of the Project site.

3.2 Reconnaissance Survey

3.2.1 Land Use and Habitats

The Project site supported dense residential landcover, an almond orchard, and a city park. Well 7 was situated east of Hatch Park and west of single-family homes (Figure 5). Well 8 was surrounded by single-family homes (Figure 6). The proposed pipeline route ran along a dirt alley at the southern edge of Hatch Park (Figure 7) and through paved residential neighborhoods (Figure 8) north and east to Well 10 (Figure 9). Well 10 had residential lots to the west and south, and an open field and Barbara Spratling Middle School to the east and north. Well 9 (Figure 10) was nested within an active almond orchard with a commercial natural gas plant to the east. The well sites were paved and devoid of vegetation. The pipeline pathway supported no natural landcover and consisted of paved and dirt roads with planted ornamental trees adjacent to residential homes and Hatch Park (Figure 7). The 50,000-gallon backwash tanks at Well 8 and Well 10 will be installed on existing paved areas, and the 150,000-gallon backwash pond at Well 9 will be installed west of the existing pad at Well 9 and involve the removal of almond orchard trees (Figure 11). The Project site is underlain by Tujunga and Dinuba sandy loam, 0 to 3% percent slopes (NRCS 2021).

Figure 5. Photograph of the Project site at Well 7, looking northeast, showing the edge of Hatch Park on the left and adjacent single-family homes.

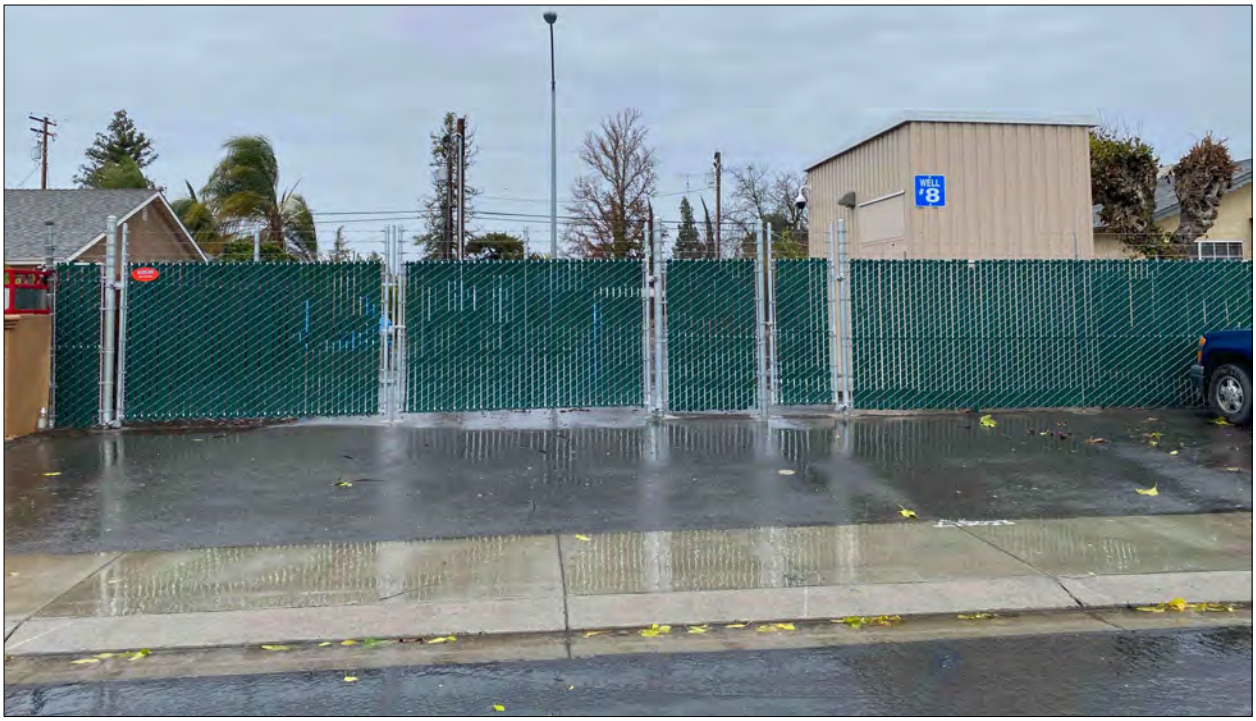

Figure 6. Photograph of the Project site at Well 8, looking north, showing paved surfaces and surrounding single-family homes.

Figure 7. Photograph of Project site along the proposed pipeline pathway, looking west, showing the southern edge of Hatch Park and a dirt road.

Figure 8. Photograph of the Project site along the proposed pipeline pathway, looking north, showing Jennie Avenue, residential landcover, paved roads, sidewalks, and ornamental trees.

Figure 9. Photograph of the Project site at Well 10, looking north, showing the paved and fenced well pad and adjacent single-family homes.

Figure 10. Photograph of the Project site at Well 9, looking northwest, showing the well pad and surrounding almond orchard.

Figure 11. Photograph of the Project site at the proposed site for 150,000-gallon backwash pond immediately west of Well 9, looking west, showing an active almond orchard.

3.2.2 Plant and Animal Species Observed

A total of 11 plant species (two native and nine nonnative) and seven bird species were observed during the survey (Table 2).

Table 2. Plant and vertebrate wildlife species observed during the reconnaissance survey.

Common Name	Scientific Name	Status
Plants		
Family Asteraceae		
Prickly lettuce	*Lactuca serriola*	Nonnative
Canada horseweed	*Erigeron canadensis*	Native
Family Brassicaceae		
Black mustard	*Brassica nigra*	Nonnative
Family Chenopodiaceae		
Russian thistle	*Salsola tragus*	Nonnative
Family Geraniaceae		
Redstem stork's bill	*Erodium cicutarium*	Nonnative
Family Cupressaceae		
Incense cedar	*Calocedrus decurrens*	Native
Family Malvaceae		
Cheeseweed mallow	*Malva parviflora*	Nonnative
Family Moraceae		
White mulberry	*Morus alba*	Nonnative
Family Plantaginaceae		
Narrow-leaved plantain	*Plantago lanceolata*	Nonnative
Family Poaceae		
Bahia grass	*Paspalum notatum*	Nonnative
Family Zygophyllaceae		
Puncture vine	*Tribulus terrestris*	Nonnative
Birds		
Family Columbidae		
Mourning dove	*Zenaida macroura*	MBTA, CFGC
Family Corvidae		
American crow	*Corvus brachyrhynchos*	MBTA, CFGC
California scrub-jay	*Aphelocoma californica*	MBTA, CFGC
Family Mimidae		
Northern mockingbird	*Mimus polyglottos*	MBTA, CFGC
Family Parulidae		
Yellow-rumped warbler	*Setophaga coronata*	MBTA, CFGC
Family Passeridae		
White-crowned sparrow	*Zonotrichia leucophrys*	MBTA, CFGC
Family Sturnidae		

Common Name	Scientific Name	Status
European starling	*Sturnus vulgaris*	--

MBTA = Protected under the Migratory Bird Treaty Act (16 USC § 703 et seq.); CFGC = Protected under the California Fish and Game Code (FGC §§ 3503 and 3513).

3.2.3 Special-Status Species

One special-status species could occur on or near the Project site based on the presence of habitat and CNDDB occurrence records from within 5 miles (Table 1). This species is described below.

3.2.3.1 Swainson's hawk (*Buteo swainsoni*, ST)

Swainson's hawk is a state listed as threatened raptor in the family Accipitridae. It is a migratory breeding resident of Central California. It uses open areas including grassland, sparse shrubland, pasture, open woodland, and annual agricultural fields such as grain and alfalfa to forage on small mammals, birds, and reptiles. After breeding, it eats mainly insects, especially grasshoppers (Bechard et al. 2020). Swainson's hawks build small to medium-sized nests in medium to large trees near foraging habitat. The nesting season begins in March or April in Central California when this species returns to its breeding grounds from wintering areas in Mexico and Central and South America. Nest building commences within one to two weeks of arrival to the breeding area and lasts about one week (Bechard et al. 2020). One to four eggs are laid and incubated for about 35 days. Young typically fledge in about 38–46 days and tend to leave the nest territory within 10 days of fledging (Bechard et al. 2020). Swainson's hawks depart for the non-breeding grounds between August and September.

There are two CNDDB records, from 1999 and 2007, of Swainson's hawk from within 5 miles of the Project site (CDFW 2021). The agricultural fields within 0.5 miles of the Project site provide potential foraging habitat for Swainson's hawk, and several potential nest trees were observed within 0.5 miles of the Project site. However, the mostly dense urban surroundings of the Project site make it less suitable for both nesting and foraging of Swainson's hawk. Therefore, the potential for this species to occur is low.

3.2.4 Bald Eagle and Golden Eagle

The Project site and surrounding 0.5-mile buffer (Figure 3) lacked foraging and nesting habitat for bald eagle and golden eagle.

3.2.5 Nesting Birds and the Migratory Bird Treaty Act

Migratory birds including, but not limited to, mourning dove (*Zenaida macroura*) and American crow (*Corvus brachyrhynchos*) could nest on or near the Project site. Numerous large trees within 0.5 miles of the Project site could provide suitable nesting substrates for raptors.

3.2.6 Regulated Habitats

No Wild and Scenic River was near the Project site; the nearest stretch was associated with the Tuolumne River north of Groveland, California, approximately 43 miles northeast of the Project site (USFWS 2021c).

No potentially jurisdictional features were observed on the Project site. No marine or estuarine fishery resources or migratory routes to and from anadromous fish spawning grounds were present in the survey area. In addition, no EFH, defined by the Magnuson-Stevens Act as those resources necessary for fish spawning, breeding, feeding, or growth to maturity, were present in the survey area.

The Project site was within a FEMA-designated flood zone classified as Zone X, otherwise described as "Other Flood Areas". Parcels within Zone X have either (1) a 0.2% annual chance of flood during a 100-year flood event, (2) a 1% annual chance of flood (during a 100-year flood event) with average depths of < 1 foot or with drainage areas less than 1 square mile, or (3) areas protected by levees from a 1% annual chance of flooding during a 100-year flood event (FEMA 2021). The nearest "Special Flood Hazard Areas" to the Project site was 4 miles north of the Project site along the Tuolumne River. Special Flood Hazard Areas are areas subject to inundation by the 1% annual chance of a 100-year flood. No connectivity existed between any Special Flood Hazard Area and the Project site (FEMA 2021).

4.0 Environmental Effects

4.1 Effects Determinations

4.1.1 Critical Habitat

We conclude the Project will have **no effect** on critical habitat as no critical habitat has been designated or proposed in the survey area.

4.1.2 Special-Status Species

We conclude the Project **may affect but is not likely to adversely affect** the state listed as threatened Swainson's hawk. The Project is not expected to affect any other special-status species due to the lack of habitat or known occurrence records for those species near the Project site.

4.1.3 Migratory Birds

We conclude the Project **may affect but is not likely to adversely affect** nesting migratory birds.

4.1.4 Regulated Habitats

No regulated habitats were observed within the survey area. Therefore, we conclude the Project will have **no effect** on regulated habitats.

4.2 Significance Determinations

This Project, which will result in temporary impacts to urban and disturbed land, will not: (1) substantially reduce the habitat of a fish or wildlife species (criterion a) as no such habitat is present on the Project site; (2) cause a fish or wildlife population to drop below self-sustaining levels (criterion b) as no such potentially vulnerable population is known from the area; (3) threaten to eliminate a plant or animal community (criterion c) as no such potentially vulnerable communities are known from the area; (4) substantially reduce the number or restrict the range of a rare or endangered plant or animal (criterion d) as no such potentially vulnerable species are known from the area; (5) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (criterion f) as no riparian habitat or other sensitive natural community was present in the survey area; (6) have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (criterion g) as no impacts to wetlands will occur; (7) conflict with any local policies or ordinances protecting biological resources, such as a tree

preservation policy or ordinance (criterion i) as no trees or biologically sensitive areas will be impacted; or (8) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan (criterion j) as no such plan has been adopted. Thus, these significance criteria are not analyzed further.

The remaining statutorily defined criteria provided the framework for Criteria BIO1 and BIO2 below. These criteria were used to assess the impacts to biological resources stemming from the Project and provide the basis for determinations of significance:

- Criterion BIO1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (significance criterion e).

- Criterion BIO2: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (significance criterion h).

4.2.1 Direct and Indirect Effects

4.2.1.1 Potential Effect #1: Have a Substantial Effect on Any Special-Status Species (Criterion BIO1)

The Project could adversely affect, either directly or through habitat modifications, one special-status animal that occurs or may occur on or near the Project site. Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species or substantially modifies its habitat could constitute a significant impact. We recommend that Mitigation Measure BIO1 (below) be included in the conditions of approval to reduce the potential impact to a less-than-significant level.

Mitigation Measure BIO1. Protect nesting Swainson's hawks.

1. To the extent practicable, construction shall be scheduled to avoid the Swainson's hawk nesting season, which extends from March through August.
2. If it is not possible to schedule construction between September and February, a qualified biologist shall conduct surveys for Swainson's hawk in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SWTAC 2000, Appendix D). These methods require six surveys, three in each of the two survey periods, prior to project initiation. Surveys shall be conducted within a minimum 0.5-mile radius around the Project site.
3. If an active Swainson's hawk nest is found within 0.5 miles of the Project site, and the qualified biologist determines that Project activities would disrupt the nesting

birds, a construction-free buffer or limited operating period shall be implemented in consultation with the CDFW.

4.2.1.2 Potential Effect #2: Interfere Substantially with Native Wildlife Movements, Corridors, or Nursery Sites (Criterion BIO2)

The Project has the potential to impede the use of nursery sites for native birds protected under the Migratory Bird Treaty Act (MBTA). Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird in the Project site or immediately adjacent to the construction zone could constitute a significant effect. We recommend that the mitigation measure BIO2 (below) be included in the conditions of approval to reduce the potential effect to a less-than-significant level.

Mitigation Measure BIO2. Protect nesting birds.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.
2. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

4.2.2 Cumulative Effects

The Project will involve installing GAC vessels and backwash tanks at Wells 8 and 10, a GAC vessel and backwash pond at Well 9, and new underground pipes and connecting Well 7 to Well 10. Although the survey area was disturbed by urban and agricultural development, foraging and nesting habitat for the state listed as threatened Swainson's hawk were present within 0.5 miles of the Project site. Nesting habitat for migratory birds is also present on the Project site.

However, implementing Mitigation Measures BIO1 and BIO2 would reduce any contribution to cumulative impacts on biological resources to a less-than-significant level.

4.2.3 Unavoidable Significant Adverse Effects

No unavoidable significant adverse effects on biological resources would occur from implementing the Project.

5.0 Literature Cited

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Appendix A. USFWS list of threatened and endangered species.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: December 10, 2021
Consultation Code: 08ESMF00-2022-SLI-0571
Event Code: 08ESMF00-2022-E-01687
Project Name: Keys TCP Mitigation Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2022-SLI-0571
Event Code: Some(08ESMF00-2022-E-01687)
Project Name: Keys TCP Mitigation Project
Project Type: DEVELOPMENT
Project Description: The Keyes Community Services District (District) proposes to construct three water treatment systems and connecting pipeline between two existing wells to meet statewide water quality standards and water supply demands established by the State Water Resources Control Board Division of Drinking Water. The District's proposal outlines two project components. First, the District proposes to construct 1,2,3-Trichloropropane (TCP) treatment systems using Granular Activated Carbon (GAC) at Well 8, Well 9, and Well 10. This component will also involve installing a 50,000-gallon backwash tank at Wells 8 and 10, and a 150,000-gallon backwash tank at Well 9. Second, the District proposes to construct 2,532 linear feet of 6-inch pipeline to convey ground water from Well 7 to the GAC treatment system at Well 10. The purpose of this project is to remove harmful levels of TCP, an impurity in certain pesticides and a known carcinogen, from the District's water supply and ultimately eliminate public exposure to TCP in drinking water.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.55739575,-120.9093040876738,14z

Counties: Stanislaus County, California

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander *Ambystoma californiense*	Threatened

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix B. CNDDB occurrence records.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Salida (3712161) OR Riverbank (3712068) OR Waterford (3712067) OR Brush Lake (3712151) OR Ceres (3712058) OR Denair (3712057) OR Crows Landing (3712141) OR Hatch (3712048) OR Turlock (3712047))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Agelaius tricolor tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	40 200	955 S:16	0	0	0	0	3	13	13	3	13	3	0
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	G2G3 S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	65 65	1263 S:1	0	0	0	0	1	0	1	0	0	0	1
Anniella pulchra Northern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	105 155	378 S:4	0	0	0	1	0	3	2	2	4	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	40 40	156 S:1	0	1	0	0	0	0	1	0	1	0	0
Astragalus tener var. tener alkali milk-vetch	G2T1 S1	None None	Rare Plant Rank - 1B.2	55 55	65 S:1	0	0	0	0	1	0	1	0	0	0	1
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	125 125	2011 S:1	0	0	0	1	0	0	1	0	1	0	0
Atriplex cordulata var. cordulata heartscale	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	50 50	66 S:2	0	0	0	0	1	1	2	0	1	0	1
Atriplex minuscula lesser saltscale	G2 S2	None None	Rare Plant Rank - 1B.1		52 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Atriplex persistens vernal pool smallscale	G2 S2	None None	Rare Plant Rank - 1B.2	55 55	41 S:1	0	0	0	0	1	0	1	0	0	1	0
Atriplex subtilis subtle orache	G1 S1	None None	Rare Plant Rank - 1B.2		24 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus caliginosus obscure bumble bee	G4? S1S2	None None	IUCN_VU-Vulnerable	70 70	181 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None None		80 100	437 S:3	0	0	0	0	0	3	3	0	3	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	125 125	795 S:1	0	1	0	0	0	0	0	1	1	0	0
Branta hutchinsii leucopareia cackling (=Aleutian Canada) goose	G5T3 S3	Delisted None	CDFW_WL-Watch List	50 70	19 S:4	0	0	0	0	0	4	4	0	4	0	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	30 260	2541 S:18	1	2	2	0	1	12	12	6	17	1	0
Clarkia rostrata beaked clarkia	G2G3 S2S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley		74 S:1	0	0	0	0	0	1	1	0	1	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	70 70	635 S:1	0	1	0	0	0	0	0	1	1	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2 S3	Threatened None		50 90	271 S:6	1	2	1	1	0	1	5	1	6	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Dipodomys heermanni dixoni Merced kangaroo rat	G4T2T3 S2S3	None None		120 120	21 S:1	0	0	0	0	0	1	1	0	1	0	0
Egretta thula snowy egret	G5 S4	None None	IUCN_LC-Least Concern	40 40	20 S:1	0	1	0	0	0	0	1	0	1	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	60 60	1398 S:1	0	1	0	0	0	0	1	0	1	0	0
Eryngium racemosum Delta button-celery	G1 S1	None Endangered	Rare Plant Rank - 1B.1	50 50	26 S:1	0	0	0	0	1	0	1	0	0	1	0
Gonidea angulata western ridged mussel	G3 S1S2	None None		48 95	157 S:2	0	0	0	0	2	0	2	0	0	2	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority	105 105	238 S:1	0	0	0	0	0	1	1	0	1	0	0
Lasthenia chrysantha alkali-sink goldfields	G2 S2	None None	Rare Plant Rank - 1B.1	45 55	55 S:2	0	0	0	0	1	1	2	0	1	1	0
Lepidurus packardi vernal pool tadpole shrimp	G4 S3S4	Endangered None	IUCN_EN-Endangered	125 125	329 S:1	0	0	1	0	0	0	0	1	1	0	0
Lytta moesta moestan blister beetle	G2 S2	None None		65 100	12 S:2	0	0	0	0	0	2	2	0	0	2	0
Monardella leucocephala Merced monardella	GX SX	None None	Rare Plant Rank - 1A	115 115	3 S:1	0	0	0	0	1	0	1	0	0	0	1
Mylopharodon conocephalus hardhead	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	60 70	33 S:3	0	0	0	0	0	3	0	3	3	0	0
Neostapfia colusana Colusa grass	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1	155 155	66 S:1	0	0	0	0	1	0	1	0	0	0	1
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	G5T2Q S2	Threatened None	AFS_TH-Threatened		31 S:4	0	0	0	1	0	3	0	4	4	0	0
Orcuttia inaequalis San Joaquin Valley Orcutt grass	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1	155 160	47 S:2	0	0	0	0	2	0	2	0	0	0	2

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Pogonichthys macrolepidotus Sacramento splittail	GNR S3	None None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_EN-Endangered	40 40	15 S:1	0	0	0	0	0	1	1	0	1	0	0
Puccinellia simplex California alkali grass	G3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	60 60	80 S:1	0	0	0	0	1	0	1	0	0	0	1
Sphenopholis obtusata prairie wedge grass	G5 S2	None None	Rare Plant Rank - 2B.2	50 50	19 S:1	0	0	0	0	0	1	1	0	1	0	0
Tuctoria greenei Greene's tuctoria	G1 S1	Endangered Rare	Rare Plant Rank - 1B.1	155 155	50 S:1	0	0	0	0	1	0	1	0	0	0	1
Vireo bellii pusillus least Bell's vireo	G5T2 S2	Endangered Endangered	IUCN_NT-Near Threatened NABCI_YWL-Yellow Watch List	120 120	503 S:1	0	0	0	0	1	0	1	0	0	1	0

Appendix C. CNPS plant list.

Search Results

Back Export Results

13 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [1B:2B] , 9-Quad include [3712058:3712161:3712068:3712067:3712151:3712057:3712141:3712048:3712047]

Scientific Name | Common Name | Family | Lifeform | Blooming Period | Fed List | State List | Global Rank | State Rank | CA Rare Plant Rank | General Habitats | Micro Habitats | Lowest Elevation (m) | Highest Elevation (m) | Lowest Elevation (ft) | Highest Elevation (ft) | CA Endemic | Date Added | Photo

Search:

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Astragalus tener var. *tener*	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	No Photo Available
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	No Photo Available
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	No Photo Available
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun-Oct	None	None	G2	S2	1B.2	No Photo Available
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2	No Photo Available
Clarkia rostrata	beaked clarkia	Onagraceae	annual herb	Apr-May	None	None	G2G3	S2S3	1B.3	No Photo Available
Eryngium racemosum	Delta button-celery	Apiaceae	annual/perennial herb	(May)Jun-Oct	None	CE	G1	S1	1B.1	No Photo Available
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	No Photo Available
Neostapfia colusana	Colusa grass	Poaceae	annual herb	May-Aug	FT	CE	G1	S1	1B.1	No Photo Available
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1	No Photo Available
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G3	S2	1B.2	No Photo Available
Sphenopholis obtusata	prairie wedge grass	Poaceae	perennial herb	Apr-Jul	None	None	G5	S2	2B.2	No Photo Available
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	No Photo Available

Showing 1 to 13 of 13 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0). Website https://www.rareplants.cnps.org [accessed 10 December 2021].

Appendix D. Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley.

RECOMMENDED TIMING AND METHODOLOGY FOR SWAINSON'S HAWK NESTING SURVEYS IN CALIFORNIA'S CENTRAL VALLEY

Swainson's Hawk Technical Advisory Committee

May 31, 2000

This set of survey recommendations was developed by the Swainson's Hawk Technical Advisory Committee (TAC) to maximize the potential for locating nesting Swainson's hawks, and thus reducing the potential for nest failures as a result of project activities/disturbances. The combination of appropriate surveys, risk analysis, and monitoring has been determined to be very effective in reducing the potential for project-induced nest failures. As with most species, when the surveyor is in the right place at the right time, Swainson's hawks may be easy to observe; but some nest sites may be very difficult to locate, and even the most experienced surveyors have missed nests, nesting pairs, mis-identified a hawk in a nest, or believed incorrectly that a nest had failed. There is no substitute for specific Swainson's hawk survey experience and acquiring the correct search image.

METHODOLOGY

Surveys should be conducted in a manner that maximizes the potential to observe the adult Swainson's hawks, as well as the nest/chicks second. To meet the California Department of Fish and Game's (CDFG) recommendations for mitigation and protection of Swainson's hawks, surveys should be conducted for a ½ mile radius around all project activities, and if active nesting is identified within the ½ mile radius, consultation is required. In general, the TAC recommends this approach as well.

Minimum Equipment

Minimum survey equipment includes a high-quality pair of binoculars and a high quality spotting scope. Surveying even the smallest project area will take hours, and poor optics often result in eye-strain and difficulty distinguishing details in vegetation and subject birds. Other equipment includes good maps, GPS units, flagging, and notebooks.

Walking vs Driving

Driving (car or boat) or "windshield surveys" are usually preferred to walking if an adequate roadway is available through or around the project site. While driving, the observer can typically approach much closer to a hawk without causing it to fly. Although it might appear that a flying bird is more visible, they often fly away from the observer using trees as screens; and it is difficult to determine from where a flying bird came. Walking surveys are useful in locating a nest after a nest territory is identified, or when driving is not an option.

Angle and Distance to the Tree

Surveying subject trees from multiple angles will greatly increase the observer's chance of detecting a nest or hawk, especially after trees are fully leafed and when surveying multiple trees

in close proximity. When surveying from an access road, survey in both directions. Maintaining a distance of 50 meters to 200 meters from subject trees is optimal for observing perched and flying hawks without greatly reducing the chance of detecting a nest/young: Once a nesting territory is identified, a closer inspection may be required to locate the nest.

Speed
Travel at a speed that allows for a thorough inspection of a potential nest site. Survey speeds should not exceed 5 miles per hour to the greatest extent possible. If the surveyor must travel faster than 5 miles per hour, stop frequently to scan subject trees.

Visual and Aural Ques
Surveys will be focused on both observations and vocalizations. Observations of nests, perched adults, displaying adults, and chicks during the nesting season are all indicators of nesting Swainson's hawks. In addition, vocalizations are extremely helpful in locating nesting territories. Vocal communication between. hawks is frequent during territorial displays; during courtship and mating; through the nesting period as mates notify each other that food is available or that a threat exists; and as older chicks and fledglings beg for food.

Distractions
Minimize distractions while surveying. Although two pairs of eyes may be better than one pair at times, conversation may limit focus. Radios should be off, not only are they distracting, they may cover a hawk's call.

Notes and Species Observed
Take thorough field notes. Detailed notes and maps of the location of observed Swainson's hawk nests are essential for filling gaps in the Natural Diversity Data Base; please report all observed nest sites. Also document the occurrence of nesting great homed owls, red-tailed hawks, red-shouldered hawks and other potentially competitive species. These species will infrequently nest within 100 yards of each other, so the presence of one species will not necessarily exclude another.

TIMING

To meet **the minimum level** of protection for the species, surveys should be completed for **at least** the two survey periods immediately prior to a project's initiation. For example, if a project is scheduled to begin on June 20, you should complete 3 surveys in Period III and 3 surveys in Period V. However, it is always recommended that surveys be completed in Periods II, III and V. **Surveys should not be conducted in Period IV.**

The survey periods are defined by the timing of migration, courtship, and nesting in a "typical" year for the majority of Swainson's hawks from San Joaquin County to Northern Yolo County. Dates should be adjusted in consideration of early and late nesting seasons, and geographic differences (northern nesters tend to nest slightly later, etc). If you are not sure, contact a TAC member or CDFG biologist.

Survey dates **Justification and search image**	**Survey time**	**Number of Surveys**
I. *January-March 20 (recommended optional)*	*All day*	*1*

Prior to Swainson's hawks returning, it may be helpful to survey the project site to determine potential nest locations. Most nests are easily observed from relatively long distances, giving the surveyor the opportunity to identify potential nest sites, as well as becoming familiar with the project area. It also gives the surveyor the opportunity to locate and map competing species nest sites such as great homed owls from February on, and red-tailed hawks from March on. After March 1, surveyors are likely to observe Swainson's hawks staging in traditional nest territories.

II. *March 20 to April 5*	*Sunrise to 1000* *1600 to sunset*	*3*

Most Central Valley Swainson's hawks return by April 1, and immediately begin occupying their traditional nest territories. For those few that do not return by April 1, there are often hawks ("floaters") that act as place-holders in traditional nest sites; they are birds that do not have mates, but temporarily attach themselves to traditional territories and/or one of the site's "owners." Floaters are usually displaced by the territories' owner(s) if the owner returns.

Most trees are leafless and are relatively transparent; it is easy to observe old nests, staging birds, and competing species. The hawks are usually in their territories during the survey hours, but typically soaring and foraging in the mid-day hours. Swainson's hawks may often be observed involved in territorial and courtship displays, and circling the nest territory. Potential nest sites identified by the observation of staging Swainson's hawks will usually be active territories during that season, although the pair may not successfully nest/reproduce that year.

III. *April 5 to April 20*	*Sunrise to 1200* *1630 to Sunset*	***3***

Although trees are much less transparent at this time, 'activity at the nest site increases significantly. Both males and females are actively nest building, visiting their selected site frequently. Territorial and courtship displays are increased, as is copulation. The birds tend to vocalize often, and nest locations are most easily identified. This period may require a great deal of "sit and watch" surveying.

IV. *April 21 to June 10*	*Monitoring known nest sites only* ***Initiating Surveys is not recommended***	

Nests are extremely difficult to locate this time of year, and even the most experienced surveyor will miss them, especially if the previous surveys have not been done. During this phase of nesting, the female Swainson's hawk is in brood position, very low in the nest, laying eggs, incubating, or protecting the newly hatched and vulnerable chicks; her head may or may not be visible. Nests are often well-hidden, built into heavily vegetated sections of trees or in clumps of mistletoe, making them all but invisible. Trees are usually not viewable from all angles, which may make nest observation impossible.

Following the male to the nest may be the only method to locate it, and the male will spend hours away from the nest foraging, soaring, and will generally avoid drawing attention to the nest site. Even if the observer is fortunate enough to see a male returning with food for the female, if the female determines it is not safe she will not call the male in, and he will not approach the nest; this may happen if the observer, or others, are too close to the nest or if other threats, such as rival hawks, are apparent to the female or male.

V. ***June 10 to JuIy 30 (post-fledging)*** ***Sunrise to 1200*** ***3***
1600 to sunset

Young are active and visible, and relatively safe without parental protection. Both adults make numerous trips to the nest and are often soaring above, or perched near or on the nest tree. The location and construction of the nest may still limit visibility of the nest, young, ‘and adults.

DETERMINING A PROJECT'S POTENTIAL
FOR IMPACTING SWAINSON'S HAWKS

LEVEL OF RISK	REPRODUCTIVE SUCCESS (Individuals)	LONGTERM SURVIVABILITY (Population)	NORMAL SITE CHARACTERISTICS (Daily Average)	NEST MONI-TORING
HIGH	Direct physical contact with the nest tree while the birds are on eggs or protecting young. (Helicopters in close proximity)	Loss of available foraging area.	Little human-created noise, little human use: nest is well away from dwellings, equipment yards, human access areas, etc. *Do not include general cultivation practices in evaluation.*	**MORE**
		Loss of nest trees.		
	Loss of nest tree after nest building is begun prior to laying eggs.	Loss of potential nest trees.		
	Personnel within 50 yards of nest tree (out of vehicles) for extended periods while birds are on eggs or protecting young that are < 10 days old.	Cumulative: Multi-year, multi-site projects with substantial noise/personnel disturbance.		
	Initiating construction activities (machinery and personnel) within 200 yards of the nest after eggs are laid and before young are > 10 days old.	Cumulative: Single-season projects with substantial noise/personnel disturbance that is greater than or significantly different from the daily norm.		
	Heavy machinery only working within 50 yards of nest.		Substantial human-created noise and occurrence: nest is near roadways, well-used waterways, active airstrips, areas that have high human use. *Do not include general cultivation practices in evaluation.*	
	Initiating construction activities within 200 yards of nest before nest building begins or after young > 10 days old.	Cumulative: Single-season projects with activities that "blend" well with site's "normal' activities.		
LOW	All project activities (personnel and machinery) greater than 200 yards from nest.			**LESS**

Appendix C

Supplemental Cultural Resource Survey and Report

Applied EARTHWORKS Inc.

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January 21, 2022

Travis L. Crawford
Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 302
Visalia, CA 93291
Travis@candbplanning.com

RE: Supplemental Historic Properties Inventory for Keyes Community Services District 1,2,3-TCP Well 9 Update Project, Stanislaus County, California

Dear Mr. Crawford,

Applied EarthWorks, Inc. (Æ) has prepared a supplemental historic properties inventory to document the efforts and findings of a cultural resource survey in support of the updated Keyes Community Services District (CSD) 1,2,3-TCP Project (Project) in Stanislaus County, California. To assist the Keyes CSD with its compliance efforts, Æ reviewed Project information and researched prior archaeological studies, conducted an intensive pedestrian survey of the 10,000-square foot study area, and prepared this report. The Project is in Section 25 of Township 4 South, Range 9 East of the U.S. Geological Survey (USGS) Ceres 7.5-minute topographic quadrangle (Figures 1, 2, and 3).

Æ previously conducted a historic properties inventory to address potential impacts to cultural resources in areas proposed for well and infrastructure elements needed to eliminate public exposure to 1,2,3-trichloropropane (TCP) in its water supply (Jones and Dyste 2019). The Keyes CSD proposed to construct granular activated carbon vessels and a 50,000-gallon backwash tank at Wells 8, 9, and 10. Additionally, they proposed to install a 2,532-linear-foot 6-inch-diameter pipeline to connect Well 7 to a treatment system at Well 10. For the current Project, the Keyes CSD proposes to remove the 50,000-gallon backwash holding tank at Well 9 and replace it with a larger 150,000-gallon backwash pond and tank to better manage storm drain infrastructure.

The Project is funded by a Drinking Water State Revolving Fund grant, a joint federal-state program, and both Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Act (CEQA) are applicable to the environmental review process. Both the NHPA (Chapter 36, Code of Federal Regulations Code of Federal Regulations [CFR], Part 800.1[a]) and CEQA (Public Resources Code [PRC] 21000[g]) mandate that government agencies consider the impacts of their actions on the environment, including cultural resources. As such, the lead agencies are responsible for determining whether a project may have a significant effect on historical resources and historical properties.

Æ staff archaeologist Gabriel Granado (B.A.) conducted the pedestrian survey on December 16, 2021, and served as primary report author. Æ Principal Archaeologist Erin Enright (M.A., Registered Professional Archaeologist [RPA] 16575) served as principal investigator, providing Project oversight and quality control. Æ Senior Archaeologist Anna Hoover (M. S., RPA 2857666) served as project manager and provided technical review of the report.

PROJECT BACKGROUND

Æ previously conducted a historic properties inventory for the Keyes CSD 1,2,3-TCP Mitigation Project in 2018 (Jones and Dyste 2019). The Area of Potential Effects (APE) included a total area of 4.8 acres. Æ conducted a records search of the California Historical Resources Information System (CHRIS) with a 0.5-mile search radius around the APE and requested a search of the Sacred Lands File from the Native American Heritage Commission (NAHC). The CHRIS search results from the Central California Information Center identified 10 previous archaeological investigations that overlapped the APE; however, there were no previously recorded sites within the APE. Additionally, the search results identified three prior cultural studies and two historical recorded resources within a 0.5-mile radius. These include a historical residence (P-10-005812) and the San Joaquin Valley Mainline of the Southern Pacific Railroad (P-10-004427). The NAHC search did not identify any resources within the APE, and no response was received as a result of outreach to Native American representatives on the contact list.

The previous survey on August 17, 2018, identified no resources with the APE. Much of the APE is a proposed pipeline corridor through residential roads within the community of Keyes; ground visibility was nonexistent in the areas that were covered with asphalt or concrete. Of the 4.8-acre APE, 4.16 acres of the total APE were not surveyed systematically, leaving approximately 0.66 acres intensively surveyed, primarily surrounding the well areas.

Æ also conducted a geoarchaeological Buried Site Sensitivity Analysis (BSSA) in 2018 to determine the possibility of encountering subsurface cultural deposits as a result of ground-disturbing impacts. The BSSA concluded that the sedimentology of the APE and its proximity to the Tuolumne, San Joaquin, and Merced rivers suggest there may have been moderate to high potential to uncover intact buried archaeological sites at one time. However, extensive earthwork within the proposed APE over the last century and historical landscape modification associated with the development of the community of Keyes has greatly reduced the likelihood of finding any intact archaeological deposits. Archaeological deposits would be in a highly disturbed context; thus, buried site sensitivity was assessed to be low. Because the survey did not identify any cultural resources and the BSSA concluded that there was a low probability for buried sites, Æ did not recommend additional cultural studies for the APE.

CURRENT STUDY METHODS AND FINDINGS

As the previous records search of the CHRIS and the NAHC's Sacred Lands Files was part of the 2018 Æ study and covered the current APE, Æ did not request a new records search for current Project. However, as new elements are part of the updated Project, Æ conducted an intensive pedestrian survey of the 10,000-square-foot APE on December 16, 2021 (Figure 4). Two survey methods were employed during the survey. Parallel transects spaced 10–15 meters apart were used in open space areas west of the Well 9 location, and the surveyor walked each of the individual rows in the orchard, observing all areas under and around the trees for cultural resources (Figure 5). Photographs of the survey area were taken on an iPad camera and all field notes were recorded on Æ field survey forms.

As a result of the survey, no cultural resources or potential historic properties were identified in the APE. Visibility in the study area was 100 percent under the pistachio trees and in the open space surrounding much of the Well 9 Project area (Figure 6). Refuse from illegal dumping observed on the north side of the Well 9 area obscured the ground surface (Figure 7). Puddles were in various places as a result of recent rains.

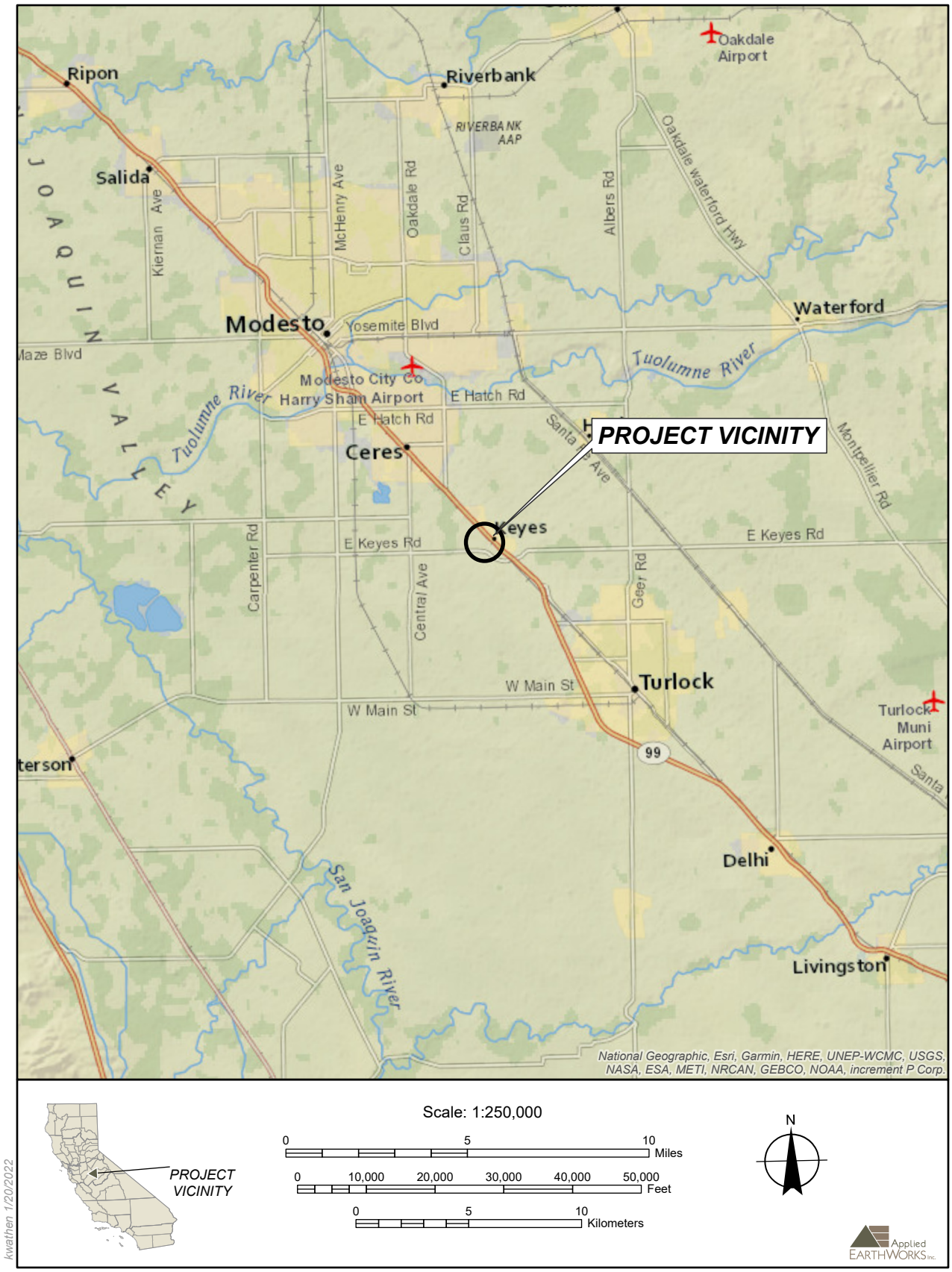

Figure 1 Project vicinity in Stanislaus County, California.

Figure 2 Project location on USGS Ceres 7.5-minute topographic quadrangle.

Figure 3 Aerial view of the Area of Potential Effects.

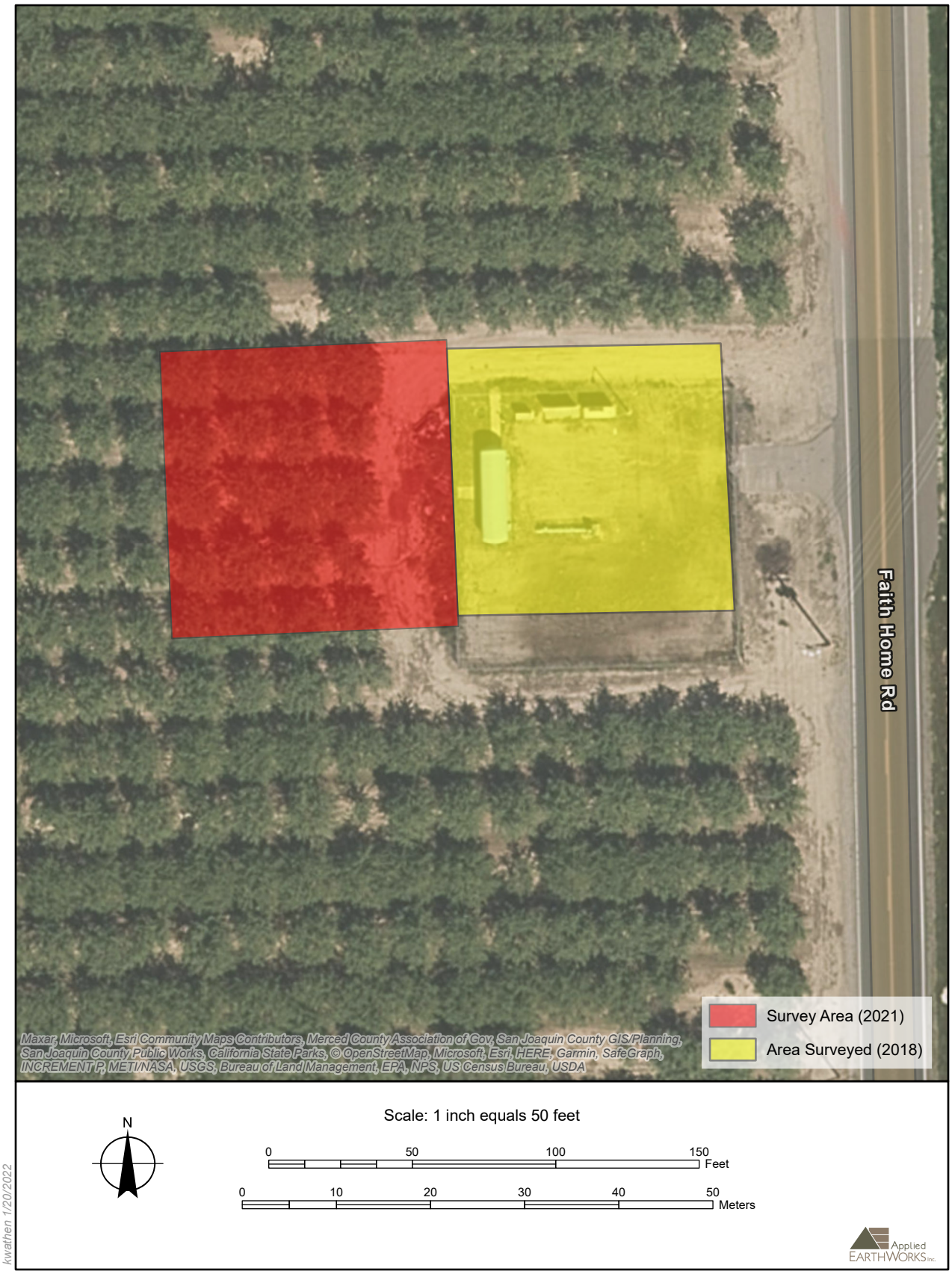

Figure 4 Well 9 survey area.

Figure 5 Overview of western portion of survey area; view east.

Figure 6 Overview of eastern portion of survey area with Well 9 in center; view west.

Figure 7 Overview of disturbance from trash dumping; view south.

SUMMARY AND RECOMMENDATIONS

Æ prepared an initial historic properties inventory of the Keyes 1,2,3-TCP Project containing Wells 8, 9, and 10 and associated infrastructure in 2018 (Jones and Dyste 2019). That study included review of a CHRIS record search, outreach to local tribal contacts, a pedestrian survey, and a BSSA. No cultural resources were identified during the pedestrian survey. Background research and the BSSA found that while the area may have the potential for buried resources, modern construction has severally impacted the APE and surrounding areas. Therefore, Æ recommended no further work was necessary for cultural resources.

For the current effort, Æ completed this supplemental historic properties inventory in support of the Keyes CSD 1,2,3-TCP Well 9 Update Project. As the information provided in the 2018 CHRIS records search and NAHC Sacred Lands File search is considered recent, no additional searches were requested. Æ surveyed an additional 10,000 square feet east of Well 9 on December 16, 2021. The results of the survey were negative—no cultural resources or historic properties were recorded or observed within the APE.

Visibility within the APE was excellent as much of the ground was clear of vegetation and debris. The lack of surface resources within the APE, in addition to the low sensitivity for buried sites determined by the 2018 BSSA, is a good indicator that subsurface cultural resources are unlikely to be encountered during ground disturbance. Æ recommends no additional archaeological work for the proposed Project.

Consistent with state and federal statutes, Æ advises that in the event archaeological remains are encountered during Project development or ground-moving activities in any portion of the APE, all work in the vicinity of the find should be halted until a qualified archaeologist can identify the discovery and assess its significance. In addition, if human remains are uncovered during construction, the Stanislaus County Coroner is to be notified to arrange their proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 requires that the County Coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent, who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in California Public Resources Code 5097.98.

Sincerely

Gabriel Granado
Staff Archaeologist
Applied EarthWorks, Inc.

cc: Central California Information Center

REFERENCES CITED

Jones, Jessica, and Diana T. Dyste
2019 *Historic Properties Inventory for the Keyes Community Services District 1,2,3-TCP Mitigation Project in Stanislaus County, California*. Applied EarthWorks, Inc., Fresno, California. Prepared for Crawford & Bowen Planning, Inc., Visalia, California.