PUBLIC REVIEW DRAFT

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

OLD JARVIS IRRIGATION WELL DEMOLITION PROJECT

ACWD JOB 21246

NEWARK, ALAMEDA COUNTY, CALIFORNIA

LSA

August 2020

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ACWD JOB 21246

NEWARK, ALAMEDA COUNTY, CALIFORNIA

Submitted to:

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August 2020

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LIST OF ABBREVIATIONS AND ACRONYMS

AAQs	Ambient Air Quality Standards
ABAG	Association of Bay Area Governments
ACCWP	Alameda Countywide Clean Water Program
ACTC	Alameda County Transportation Commission
AHF	Above Hayward Fault
BAAQMD	Bay Area Air Quality Management District
bgs	below ground surface
BHF	Below Hayward Fault
BMPs	Best Management Practices
CAL FIRE	California Department of Fire and Forestry Protection
CAP	City of Newark Climate Action Plan
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH_4	Methane
City	City of Newark
CMA	Congestion Management Agency
CNEL	community noise equivalent level
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	CO_2 equivalents
County	Alameda County
dB	decibels
dBA	A-weighted decibels
District	Alameda County Water District
DWR	Department of Water Resources
EFZs	Earthquake Fault Zones
ESA	Federal Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration

FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
GHG	Greenhouse Gas
GWP	Global Warming Potential
HFCs	Hydrofluorocarbons
IS/MND	Initial Study/Mitigated Negative Declaration
Leq	Equivalent continuous sound level
Ldn	Day-night average level
Lmax	Maximum instantaneous sound level
MLD	Most Likely Descendent
MMI	Modified Mercalli Intensity
MRZ	Mineral Resource Zone
N_2O	Nitrous Oxide
NAHC	Native American Heritage Commission
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System
NWIC	Northwest Information Center
Pb	Lead
PFCs	Perfluorocarbons
PM_{10}, $PM_{2.5}$	Particulate Matter
PPV	Peak Particle Velocity
PRC	Public Resources Code
Refuge	Don Edwards San Francisco Bay National Wildlife Refuge
RoadMod	Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model, Version 9.0.0
ROG	Reactive Organic Gases
RWQCB	San Francisco Bay Regional Water Quality Control Board
SF_6	Sulfur Hexafluoride
SO_2	Sulfur Dioxide
SUP	Special Use Permit
SWRCB	State Water Resources Control Board

TACs	Toxic Air Contaminants
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service

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1.0 PROJECT INFORMATION

1. **Project Title:**

   Old Jarvis Irrigation Well Demolition Project (Job 21246)

2. **Lead Agency Name and Address:**

   Alameda County Water District
   43885 S. Grimmer Boulevard
   Fremont, California 94538

3. **Contact Person and Phone Number:**

   Douglas Young, Project Hydrogeologist
   (510) 668-4452
   Douglas.Young@acwd.com

4. **Project Location:**

   The wells to be demolished are located within the Mayhews Unit of the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge), which is operated by the United States Fish and Wildlife Service (USFWS). This portion of the Refuge is located off of Thornton Avenue in the City of Newark (see Figure 1 and Figure 2).

5. **Project Sponsor's Name and Address:**

   Alameda County Water District
   43885 S. Grimmer Boulevard
   Fremont, California 94538

6. **General Plan Designation:**

   Conservation – Open Space

7. **Zoning:**

   OS – Open Space

8. **Description of Project :**

   The Alameda County Water District (District) proposes to destroy two abandoned irrigation wells in the western section of the Niles Cone Groundwater Basin that appear to be acting as pathways for brackish water to enter into active water production aquifers.

   Project Purpose. According to information provided by the District, the most recent California Department of Water Resources (DWR)/District Saltwater Intrusion Study prepared in March 2016 indicates that the location of these legacy wells corresponds to areas with the highest chloride levels in the lower aquifers and appears to be the source of a brackish water plume that extends up to and threatens the District's Mowry Wellfield. Destruction of these legacy wells would help to eliminate the potential source of chlorides in the lower aquifers and minimize the threat to the Mowry Wellfield.

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LEGEND

Project Site

FIGURE 1

N

0 1000 2000

FEET

Old Jarvis Irrigation Well Destruction Project
Newark, Alameda County, California

Regional Location

SOURCE: ESRI World Street Maps (02/2020).

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FIGURE 2

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Well Locations

Old Jarvis Irrigation Well Destruction Project

Aerial Photograph of Project Locations and Surrounding Land Uses

SOURCES: GOOGLE EARTH, 3/28/18; LSA, 2020

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Proposed Project. At each of the well sites, the well would be exposed and any debris or equipment in the well would be removed to the total depth of the well. Total well depth would be confirmed by the drilling operations either by encountering the bottom well cap or native soil (estimated depths of the two wells are approximately 250 and 450 feet, respectively). Due to the age of the wells and the expected poor conditions of the steel material of the well, explosive well perforation would be utilized in lieu of creating perforations by means of a mills knife. Cement or a sand cement slurry grout would then be used to seal each well.

Prior to drilling, vegetation would be cleared within the work area and the work area would be enclosed with silt fencing. A backhoe would then be utilized to expose the well head and clear an area for the drilling equipment to setup over the well.

During drilling operations, noise levels reach approximately 78 to 80 decibels. Idling noise levels are lower. All wells would be measured and an appropriately sized drill head will be use to remove all debris in the well casing. Each well casing would be cleared out to the total depth of the well. Standard equipment needed for drilling to this depth normally includes: 1) a 20- to 30-foot-long flatbed with mounted drilling equipment; 2) a 20- to 25-foot-long support flatbed truck with additional drill stems, bags of cement, and water; 3) containers for storing cuttings and drilling mud; 4) a crew of three (one driller and two helpers); and 5) a District inspector with a District pickup truck. All field operations would be under the direct supervision of a professional geologist licensed by the State of California, who would review all procedures and protocols outlined for the project and ensure that Standard of Practice for the proposed work is followed and documented.

Demolition work is anticipated to begin in October 2020 and would require approximately two weeks to complete. Construction staging and project work would occur within an approximately 7,500-square-foot area around each wellhead. Access to the project site would be via a locked gate on Cedar Boulevard (see Figure 3). Prior to commencement of demolition activities, the District would notify all businesses and residents adjacent to the Mayhew Landing Unit of the Refuge, including estimated start date, hours of work, purpose of the project, potential project impacts, and a site map. In addition, the District would identify the project contact and provide contact information for any questions or concerns.

Avoidance and Minimization Measures. As the wells are located within the Refuge, project work would be conducted in compliance with the Special Use Permit (SUP) issued by the USFWS, including implementation of conservation measures to avoid and minimize potential effects on the salt marsh harvest mouse and California Ridgway's rail. In addition to the SUP, the USFWS has completed an Intra-Service Section 7 Biological Evaluation.[1] As lead agency under the National Environmental Policy Act (NEPA), USFWS is responsible for compliance with NEPA. With issuance of the SUP, USFWS has completed environmental review pursuant to NEPA requirements.

[1] United States Fish and Wildlife Services. 2018. *Endangered Species Consultation on Irrigation Well Destruction at Old Jarvis Road/Mayhews Unit of the Don Edwards San Francisco Bay National Wildlife Refuge, Alameda County, California (SFB-2018-1).* June 20.

Consistent with the requirements of the SUP, an exclusion fence (expected to extend from 6 inches below grade to 24 inches above grade) would be installed around the work areas. No work would be conducted within 50 feet of a waterway from two hours before to two hours after a king tide event.

9. Surrounding Land Uses and Setting:

The project site is located within the Mayhews Landing Unit of the Don Edwards San Francisco Bay National Wildlife Refuge, the first urban wildlife refuge in the United States. The wetland ecosystem of the Refuge extends around the southern perimeter of the San Francisco Bay and is an important habitat area for migratory birds and several threatened and endangered species.[2] Surrounding land uses include residential development to the northeast, east, and southeast, with other Refuge lands to the southwest and west. Industrial uses associated with the Pacific Research Center are located to the northwest. Bridgepointe Park and Lincoln Elementary School are located just to the north/northeast.

10. Other Public Agencies Whose Approval is Required (e.g., permits, financial approval, or participation agreements):

- USFWS

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resource Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

In July 2020, the District provided formal notification to those California Native American tribes that are traditionally and culturally affiliated with the geographic area within which the proposed project is located pursuant to the consultation requirements of AB 52. Letters were sent to all tribal representatives identified by the Native American Heritage Commission. The District received no responses from the tribal representatives during the 30-day comment period. Therefore, the AB 52 consultation is considered complete.

[2] Newark, City of. 2013. *Newark California General Plan*. December 12.

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FIGURE 3

0 400 800
FEET

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Well

Access Route

Old Jarvis Irrigation Well Destruction Project

Proposed Work Area and Site Access

SOURCES: GOOGLE EARTH, 3/28/18; LSA, 2020

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2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist in Chapter 3.0. These impacts would be reduced to less than significant with implementation of mitigation measures identified herein.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☒ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

2.1 DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "Potentially Significant Impact" or "Potentially Significant Unless Mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature _____ Date _____

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3.0 CEQA ENVIRONMENTAL CHECKLIST

3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

a. Would the project have a substantial effect on a scenic vista? ***(No Impact)***

A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Aesthetic components of a scenic vista generally include: 1) scenic quality; 2) sensitivity level; and 3) view access. There are no officially-designated scenic vistas or view corridors in the City of Newark. However, views of the undeveloped Coyote Hills to the northwest, of Mission Peak to the east, and of the East Bay Hills to the east and southeast are available from open spaces within the city. Additionally, views of low-lying wetlands fronting San Francisco Bay are available from vantage points along the western perimeter of Newark, as are panoramic views of the surrounding hills. The project site is located within the Refuge at the western edge of the City of Newark, providing views of the wetland areas along the San Francisco Bay.

Due to the location of the project site within the larger Mayhews Landing Unit of the Refuge and the location of the wells underground, the existing wells are not visible from the closest public vantage points, such as Cedar Avenue, Thornton Avenue and Jarvis Road.

Construction activities associated with the well demolition could be visible from nearby residential development and public roadways in proximity to the project site. However, the equipment (e.g., trucks, drill) required for drilling operations and well sealing would only be visible temporarily during construction activities. Upon completion, the existing underground wells would be demolished and sealed. No permanent above-ground structures would be constructed as part of the proposed project. Therefore, no impacts to scenic vistas would occur with implementation of the proposed project.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? ***(No Impact)***

The project site is not located within the vicinity of a State Scenic Highway;[3] therefore, no impacts to scenic resources within a State Scenic Highway would occur with implementation of the proposed project.

c. In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? ***(No Impact)***

The existing visual character of the project site consists of undeveloped land associated with the Refuge. The surrounding landscape consists of urban development, including existing roadways, and residential and industrial uses. As described above, the existing wells are not visible from surrounding public sites, including local roadways.

The proposed project would result in demolition and sealing of two existing underground wells. No above ground structures would be constructed as part of the proposed project. Upon completion, the proposed project would be underground and out of view.

Construction activities associated with the well demolition could be visible from adjacent uses and public roadways. However, all temporary construction-related visual impacts such as construction equipment, staging areas, stockpile locations, and exclusion fencing would be removed following completion of construction. Therefore, implementation of the proposed project would have no impact associated with degrading the existing visual character or quality of the project site and its surroundings.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? ***(No Impact)***

No temporary or permanent sources of lighting would be installed as part of the project. The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area and no impact would occur.

[3] California Department of Transportation. 2020. California Scenic Highway Program. Website: dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways (accessed August 20, 2020).

3.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
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))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing 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?	☐	☐	☐	☒

a. Would the project 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)***

The project site is classified as "Other Land" on maps prepared by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP).[4] Other Land is land not included in any other mapping category, including low-density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. No Farmland is mapped on or near the project site. Therefore, the project would not convert Prime Farmland, Unique

[4] California Department of Conservation. 2016. California Important Farmland Finder. Website: maps.conservation.ca.gov/DLRP/CIFF/ (accessed August 20, 2020).

Farmland, or Farmland of Statewide Importance to a non-agricultural use and no impact would occur.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract? ***(No Impact)***

The project site is located in the Mayhews Landing Unit of the Refuge. The project site is not zoned for agricultural use and is not under a Williamson Act contract. Therefore, implementation of the project would not conflict with existing zoning for agricultural use, or a Williamson Act contract and no impact would occur.

c. Would the project 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)***

The project site is not located on forest land or timberland, and the project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, implementation of the project would not result in any impacts to forestland.

d. Would the project result in the loss of forest land or conversion of forestland to non-forest use? ***(No Impact)***

The project site is not located on forest land or timberland, and would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, implementation of the project would not result in any impacts to forestland.

e. Would the project involve other changes in the existing 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? ***(No Impact)***

Refer to Sections 3.2.1.a and 3.2.1.c. The proposed project would not involve any other changes to the existing environment, which due to their location or nature, could result in conversion of Farmland to a non-agricultural use, or conversion of forestland to a non-forest use. Therefore, the proposed project would have no impact.

3.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. 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?	☐	☒	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

The proposed project is located in the City of Newark, and is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen substantially. In Newark, and the rest of the air basin, exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Within the BAAQMD, ambient air quality standards for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10}, $PM_{2.5}$), and lead (Pb) have been set by both the State of California and the federal government. The State has also set standards for sulfate and visibility. The BAAQMD is under State non-attainment status for ozone and particulate matter standards. The BAAQMD is classified as non-attainment for the federal ozone 8-hour standard and non-attainment for the federal $PM_{2.5}$ 24-hour standard.

This analysis follows the methods outlined in the BAAQMD CEQA Air Quality Guidelines.[5]

a. Would the project conflict with or obstruct implementation of the applicable air quality plan? ***(Less-Than-Significant Impact)***

The applicable air quality plan is the BAAQMD 2017 Clean Air Plan, which was adopted on April 19, 2017. In addition, the Regional Climate Protection Strategy is included in the 2017 Clean Air Plan, which identifies potential rules, control measures, and strategies that the BAAQMD can pursue to reduce greenhouse gases throughout the Bay Area. The 2017 Clean Air Plan/Regional Climate

[5] Bay Area Air Quality Management District. 2017. *CEQA Air Quality Guidelines*. May.

Protection Strategy serves as a roadmap for the BAAQMD to reduce air pollution and protect public health and the global climate. The 2017 Clean Air Plan also includes measures and programs to reduce emissions of fine particulates and toxic air contaminants.

Consistency with the 2017 Clean Air Plan is determined by whether or not the proposed project would result in significant and unavoidable air quality impacts or hinder implementation of control measures (e.g., excessive parking or preclude extension of transit lane or bicycle path). The proposed project would result in the demolition of two existing irrigation wells to prevent saltwater intrusion into the local aquifer.

The proposed project, as indicated in the analysis that follows, would not result in significant operational or construction-period emissions. The proposed project does not conflict with the goals of the Clean Air Plan in that the project would help to eliminate the source of chlorides in the lower aquifers and minimize the threat to the Mowry Wellfield. The proposed project would not conflict with any of the control measures identified in the plan or measures designed to bring the region into attainment. Additionally, the proposed project would not increase the population, vehicle trips, or vehicle miles traveled. The proposed project would not hinder the region from attaining the goals outlined in the Clean Air Plan. Therefore, the proposed project would not inhibit or disrupt implementation of any control measures from the applicable Clean Air Plan and impacts would be less than significant.

b. Would the project 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? ***(Less Than Significant with Mitigation Incorporated)***

The BAAQMD is currently designated as a nonattainment area for State and national ozone standards and national particulate matter ambient air quality standards. The BAAQMD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

According to the BAAQMD CEQA Guidelines, to meet air quality standards for operational-related criteria air pollutant and air precursor impacts, the project must not:

- Generate average daily construction emissions of reactive organic gases (ROG), NO_x, or $PM_{2.5}$ greater than 54 pounds per day or PM_{10} exhaust emissions greater than 82 pounds per day;
- Contribute to CO concentrations exceeding the State ambient air quality standards; or
- Generate operation emissions of ROG, NO_x, or $PM_{2.5}$ of greater than 10 tons per year or 54 pounds per day or PM_{10} emissions greater than 15 tons per year or 82 pounds per day.

The following analysis assesses the potential project-level construction- and operation-related air quality impacts and CO impacts.

Construction Emissions. During demolition of the two abandoned irrigation wells, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by demolition, hauling, and other activities. Emissions from construction equipment would include CO, nitrogen oxides (NO_x), ROG, directly emitted particulate matter ($PM_{2.5}$ and PM_{10}), and toxic air contaminants (TACs) such as diesel exhaust particulate matter.

Demolition of the irrigation wells would involve demolition, grading, hauling, and other activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils necessary to clear the well area. In compliance with the SUP, vegetation around the well areas would be cleared primarily with hand tools, which would result in minimal amounts of pollutants. A backhoe would then be utilized to expose the well head and clear an area for the drilling equipment to setup over the well. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust emissions (PM_{10}). With the implementation of these Basic Construction Mitigation Measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, ROGs and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using the Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model, Version 9.0.0 (RoadMod) as recommended by the BAAQMD for similar types of projects. As described in Section 1.0, Project Information, at each of the well sites, the well would be exposed and any debris drilled out to the

total depth of the well. Due to the age of the wells and the expected poor conditions of the steel material of the well, explosive well perforation would be utilized and cement or a sand cement slurry grout would be used to seal each well.

Prior to drilling, vegetation would be cleared within the work area and the work area would be enclosed with silt-fencing. A backhoe would then be utilized to expose the well head and clear an area for the drilling equipment to setup over the well. Vegetation would be cleared primarily with hand tools, which would result in minimal amounts of pollutants.

As described in Section 1.0, Project Information, each well would be drilled out to the total depths of the well (estimated depths are approximately 250 and 450 feet). Standard equipment needed for drilling to this depth normally includes: 1) a 20- to 30-foot-long flatbed with mounted drilling equipment; 2) a 20- to 25-foot-long support flatbed truck with additional drill stems, bags of cement, and water; 3) containers for storing cuttings and drilling mud; 4) a crew of three (one driller and two helpers); and 5) a District inspector with a District pickup truck.

Demolition work is anticipated to begin in October 2020 and would require approximately two weeks to complete. Construction staging and project work would occur within an approximately 7,500-square-foot area around each wellhead. RoadMod results are estimated in terms of maximum daily emissions and total emissions. For consistency with BAAQMD Guidelines, total emissions were averaged over the two-week construction period to determine average daily emissions for comparison to the average daily emissions threshold. Construction-related emissions for the project are shown in Table A. Detailed calculations are provided in Appendix A.

Table A: Project Construction Emissions in Pounds Per Day

Project Construction	ROG	NO_x	Exhaust PM_{10}	Fugitive Dust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust $PM_{2.5}$
Average Daily Emissions	1.4	10.0	<0.1	2.9	<0.1	<0.1
BAAQMD Average Daily Emission Thresholds	54.0	54.0	82.0	BMP	54.0	BMP
Exceed Threshold?	**No**	**No**	**No**	**NA**	**No**	**NA**

Source: LSA (July 2020).
BMP = Best Management Practices
NA = Not Applicable

As shown in Table A, construction emissions associated with the project would be less than significant for ROG, NO_x, and $PM_{2.5}$ and PM_{10} exhaust emissions. The BAAQMD also requires the implementation of BAAQMD Basic Construction Mitigation Measures (Best Management Practices) to reduce construction fugitive dust impacts to a less-than-significant level.

Mitigation Measure AIR-1: In order to meet the Bay Area Air Quality Management District (BAAQMD) fugitive dust threshold, the following BAAQMD Basic Construction Mitigation Measures shall be implemented:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- All visible mud or dirt tracked out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted with the telephone number and person to contact at the District regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD phone number shall also be visible to ensure compliance with applicable regulations.

Construction emissions associated with the project would be less than significant with implementation of Mitigation Measure AIR-1. Therefore, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standards (AAQS).

Operational Emissions. Long-term air emission impacts are associated with stationary sources and mobile sources. Stationary source emissions result from the consumption of natural gas and electricity. Mobile source emissions result from vehicle trips and result in air pollutant emissions affecting the entire air basin. As discussed above, the proposed project would result in the demolition of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. The project would not result in an increase in the generation of operational vehicle trips or vehicle miles traveled that would increase air pollutant emissions. The project would not be a source of stationary

source emissions. Therefore, operation of the proposed project would not result in a cumulatively considerable net increase of PM_{10} or any criteria pollutant for which the project region is non-attainment under an applicable federal or State AAQS and impacts would be less than significant.

Localized CO Impacts. The BAAQMD has established a screening methodology that provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD CEQA Guidelines, a proposed project would result in a less-than significant impact related to localized CO concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.
- Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

Implementation of the project would not conflict with the Alameda County Transportation Commission (ACTC) for designated roads or highways, a regional transportation plan, or other agency plans. The project site is not located in an area where vertical or horizontal mixing of air is substantially limited. In addition, the proposed project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour and would not result in localized CO concentrations that exceed State or federal standards. Therefore, this impact would be less than significant.

c. Would the project expose sensitive receptors to substantial pollutant concentrations? ***(Less Than Significant with Mitigation Incorporated)***

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks.

The closest sensitive receptors include the residential development located approximately 120 feet east. Construction of the proposed project may expose these surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement BAAQMD Basic Construction Mitigation Measures, as required by Mitigation Measure AIR-1 above. With implementation of Mitigation Measure AIR-1, project construction emissions would be below BAAQMD significance thresholds. Once the project is constructed, the project would not be a source of substantial emissions. Therefore, sensitive receptors are not expected to

be exposed to substantial pollutant concentrations during project construction or operation, and potential impacts would be less than significant with mitigation incorporated.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? ***(Less-Than-Significant Impact)***

During construction, the various diesel-powered vehicles and equipment in use on the site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. The potential for diesel odor impacts is therefore considered to be less than significant. There would be no operational impacts associated with the proposed demolition project. Therefore, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and potential impacts would be considered less than significant.

3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
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?	☐	☐	☐	☒
c. 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?	☐	☐	☐	☒
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?	☐	☒	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

LSA conducted a survey of the project site on July 16, 2020, which consisted of walking the access road to the two well sites and recording observations in a field notebook. Binoculars (10 x 40) were used to aid in the identification and observation of wildlife and to survey habitats in surrounding areas.

The area around the project site is a mosaic of salt marsh, sloughs, and upland areas dominated by weedy non-native vegetation. The areas of salt marsh adjacent to the project site are dominated by pickleweed (*Salicornia* sp.), but there are also areas of open water and small mudflats. A small area of freshwater marsh is also present along a channel outfall in the northern portion of the Refuge.

Upland areas support largely non-native vegetation species such as fennel (*Foeniculum vulgare*), bristly ox-tongue (*Helminthotheca echioides*), prickly lettuce (*Lactuca serriola*), black mustard (*Brassica nigra*), bindweed (*Convolvulus arvensis*), and wild oat (*Avena* sp.). The existing access and the area around the well site and an adjacent abandoned silo are maintained by mowing. Some adjacent upland areas also support patches of native shrubs such as coyote brush (*Baccharis pilularis*) and toyon (*Heteromeles arbutifolia*).

Well 1, located near the northeastern boundary of the Refuge, is adjacent to the channel outfall noted above. The small area of freshwater marsh associated with this channel is dominated by bulrush (*Schoenoplectus* sp.). The well site is surrounded by a dense thicket of trees and shrubs, dominated by non-native species, including Monterey pine (*Pinus radiata*), ash (*Fraxinus* sp.), olive (*Olea europaea*), and myoporum (*Myoporum laetum*). A patch of cattails (*Typha* sp.), presumably associated with the well head, occurs where surface water is present.

Well 2 is located approximately 470 feet south of Well 1 and is surrounded by mowed non-native grassland with adjacent dense stands of black mustard. The abandoned silo is located adjacent to the well site; this silo is maintained by the Refuge as a potential bat roost and is also used by a nesting colony of cliff swallows (*Petrochelidon pyrrhonota*).

Wildlife observed in the project area included great blue heron (*Ardea herodias*), mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), black phoebe (*Sayornis nigra*), California scrub-jay (*Aphelocoma californica*), barn swallow (*Hirundo rustica*), cliff swallow, northern mockingbird (*Mimus polyglottos*), and house finch (*Haemorhous mexicanus*). All these species are native residents and/or nesting in the area. Water birds observed in adjacent marsh areas included black-necked stilt (*Himantopus* mexicanus), killdeer (*Charadrius vociferus*), lesser yellowlegs (*Tringa flavipes*), greater yellowlegs (*T. melanoleuca*), and snowy egret (*Egretta thula*). No heron rookeries or raptor nests were noted in trees on the project site or in adjacent areas.

Special-status species known from adjacent salt marsh areas include two federally and State-listed species, the California Ridgway's rail (*Rallus obsoletus obsoletus*) and the salt marsh harvest mouse (*Reithrodontomys raviventris*); both are listed as federally and State endangered species.

a. Would the project 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 with Mitigation Incorporated)***

As noted above, two federally and State-listed species occur in the salt marsh habitats adjacent to the project site. During project demolition activities, potential impacts to these species, such as disruption of nesting behavior of Ridgway's rail by project-generated noise and crushing of salt marsh harvest mice by project equipment, could occur. The following general and species-specific mitigation measures would reduce potential impacts to these two species to less than significant. These measures are derived from endangered species consultation between the District and the USFWS.

Mitigation Measure BIO-1: **General Conservation Measures.** The following measures shall be implemented prior to and during demolition activities:

1. A worker awareness program shall be presented to all construction personnel before they start work on the project. The program shall summarize relevant laws and regulations that protect biological resources, discuss sensitive habitats and listed species with the potential to occur in the work zone, explain the

role and authority of the biological monitors, and review applicable avoidance measures to protect listed species and habitats.

2. Prior to any construction activities on site, a review of all required permits and notifications shall be performed to ensure requirements for environmental compliance are fully understood, specific limits of activities and work are defined and understood, and all environmental clearances and access, encroachment agreements, and permissions have been obtained from the appropriate agencies and parties.

3. The number of access routes, size of staging areas, and total area of the activity shall be limited to the minimum necessary to achieve the project goal.

4. Preconstruction surveys for special-status plant and wildlife species that are known or have a high potential to occur in the project area shall be conducted prior to construction by USFWS staff.

5. Prior to construction activities, environmentally sensitive areas shall be flagged or fenced in order to clearly delineate the extent of the construction. Project limits shall be established and defined with physical markers to define access routes and maintenance areas to the minimum area necessary to complete the project; this includes locating access routes and maintenance areas outside of any drainages or creeks.

6. To reduce potential impacts from infestation by non-native spartina (*Spartina alterniflora*), pepperweed (*Lepidium latifolium*), and other invasive, non-native plant species, all equipment (including personal gear) shall be inspected and cleaned of soil, seeds, and plant material prior to arriving on site to prevent introduction of undesirable plant species. Equipment and personal gear shall be subject to inspection.

7. All work shall occur during normal daylight working hours.

8. All foods and food-related trash items shall be enclosed in sealed trash containers and removed from the site at the end of each workday.

9. No pets shall be allowed on the project site.

10. All equipment shall be maintained such that there will be no leaks of machine fluids such as gasoline, diesel, or oils.

11. Equipment left on the project site overnight shall be placed over plastic mats in order to prevent fluid leakage into soils.

12. Hazardous materials such as fuels and oils shall be stored in sealable containers in a designated location that is at least 200 feet from any aquatic habitat.

13. Oil and other hazmat spill contingency plans shall be implemented.

14. All equipment and personnel should stay within designated project site areas to avoid disturbing sensitive species.

15. To prevent entrapment of animals, all excavations, steep-walled holes, or trenches more than 6 inches deep shall be secured against animal entry at the close of each day. Methods that can be employed include: covering holes with plywood or similar materials, providing escape ramps, or surrounding the excavation, hole, or trench with filter fabric fencing to exclude wildlife.

Mitigation Measure BIO-2: **California Ridgway's Rail Conservation Measures.** As part of the proposed project, the following conservation measures shall be implemented to avoid and minimize potential effects on the California Ridgway's rail and suitable habitat.

1. Work activities within 50 feet of potential California Ridgway's rail habitat shall not occur within 2 hours before or after extreme high tides (6.5 feet or above as measured at the Golden Gate Bridge adjusted to the timing of local high tides), when the marsh plain is inundated, which could prevent individuals from reaching available cover.

2. The project shall not be conducted during the Ridgway's rail breeding season (February 1-August 31) to avoid impacts to breeding adults, chicks, and eggs.

Mitigation Measure BIO-3: **Salt Marsh Harvest Mouse Conservation Measures.** As part of the proposed project, the following conservation measures shall be implemented to avoid and minimize potential effects on the salt marsh harvest mouse and its habitats.

1. All wetland vegetation within the project area and within a 2-foot buffer around the project area shall be removed by hand using only non-mechanized hand tools (i.e., trowel, hoe, rake, and shovel) or a weed whacker prior to the initiation of work within these areas. Vegetation shall be removed to bare ground or stubble no higher than 1 inch. Vegetation removal shall start at the center of the project area and work its way toward the salt marsh habitat.

2. To minimize or avoid the loss of individual salt marsh harvest mice, construction activities will not occur within 2 hours before or after extreme high tides (6.5 feet or above, as measured at the Golden Gate Bridge adjusting to the timing of local tides), when the marsh plain is inundated, because protective cover for mice is limited and activities could prevent them from reaching available cover or push them into the project area.

3. To prevent salt marsh harvest mice from moving through the proposed project site during construction, temporary exclusion fencing shall be placed around a defined work area prior to the start of construction activities. The temporary exclusion fencing shall be installed immediately after the hand removal of all wetland vegetation (as described above) from the work area and a 2-foot buffer around the work area for each well (approximately 90 feet by 60 feet). The fence shall be made of a heavy plastic sheeting material that does not allow salt marsh harvest mice to pass through or climb, and the bottom shall be buried to a depth of 4 inches so that salt marsh harvest mice cannot crawl under the fence. Fence height shall be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet. All supports for the exclusion fencing shall be placed on the inside of the work area. Once work is completed for a well, the fencing should be removed and put in place around the next well.

4. Before the start of work each day, an approved worker shall check for animals in or under any equipment and vehicles within the project area. If a salt marsh harvest mouse is encountered, work shall stop, and the USFWS and the California Department of Fish and Wildlife shall be notified immediately for guidance on how to proceed.

b. Would the project 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)***

As noted above, the proposed access to the well sites would be through upland areas supporting ruderal vegetation; no sensitive natural communities are present. All work for the proposed well demolition shall occur within the upland habitat. Therefore, the proposed project would have no adverse effects on riparian habitat or other sensitive natural communities.

c. Would the project 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)***

As previously noted, the project site, including access areas, is entirely located in upland areas and no work would occur in areas within Section 404 jurisdiction. Therefore, the proposed project would have no effect on federally protected wetlands.

d. Would the project 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 with Mitigation Incorporated)***

During the field survey, no nursery sites such as heron rookeries or raptor nests were observed in any of the large trees that are adjacent to the project site or laydown areas. The silo near Well 2 provides potential bat roosting habitat and is used by a cliff swallow nesting colony.

In addition to the cliff swallow nesting colony, the trees around Well 1 could provide nesting habitat for some species of birds (e.g., California scrub-jay, northern mockingbird, and house finch) protected under the federal Migratory Bird Treaty Act and the California Fish and Game Code. If the project requires removal and/or trimming of trees during the nesting bird season (February 15 to August 31), impacts to the active nests of protected bird species could occur. However, as specified in Mitigation Measure BIO-2, project activities shall not be conducted during the Ridgway's rail breeding season (February 1 – August 31). With implementation of Mitigation Measure BIO-2, potential project impacts to protected nesting birds would be less than significant.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ***(No Impact)***

The Refuge has authorized the District to remove trees around Well 1 if necessary; therefore, no permit is required and the project would not conflict with any local policies or ordinances protecting biological resources.

f. Would the project 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)***

The proposed project is not within the East Alameda County Conservation Strategy area or any other approved local, regional, or state conservation plan. Therefore, the project would not conflict with any approved local, regional, or state habitat conservation plan.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? ***(Less Than Significant with Mitigation Incorporated)***

For a cultural resource to be considered a historical resource (i.e., eligible for listing in the California Register of Historical Resources), it generally must be 50 years or older. Under CEQA, historical resources can include precontact (i.e., Native American) archaeological deposits, historic-period archaeological deposits, historic buildings, and historic districts. To identify cultural resources at the project site, the following tasks were completed for this Initial Study: (1) a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System; (2) a review of historical maps and aerial photographs to assess the potential for buried precontact and historic-period archaeological deposits; and (3) a field survey of the project site by a qualified archaeologist. The District undertook consultation outreach with California tribal organizations pursuant to the requirements of AB 52 (refer to Section 3.18, Tribal Cultural Resources, for additional information).

LSA conducted a cultural resources study[6] to inform the baseline conditions for cultural resources in the project site.

Records Search and Map Review Results.A records search request was submitted to the NWIC on July 27, 2020 and the results were received on August 3, 2020. The search indicated that there are no recorded cultural resources within the project site; one cultural resource (C-148) is reportedly located in the vicinity of the northern project site. Site C-148, which has been informally reported to the NWIC, consists of a sparse scatter of bay oyster and shell and unidentified faunal bone. The project sites have been studied before in portions of 23 different reports, and no cultural resources were identified by those studies in the project sites.

The District provided limited information about the nature of the two wells that would be removed as part of the project. The northern well, 5S/2W-02D001, was installed in 1972 for irrigation purposes for the Silver Creek Pines Golf Course; it is approximately 450 feet deep with a 12-inch diameter steel casing. The southern well, 5S/2W-02D005, was installed prior to 1914, as it is shown on a survey map from 1914. It is a 10- to 12-inch steel pipe exposed at the ground surface, but there

[6] LSA. 2020. Cultural Resources Study, Jarvis Well Removal Project. August.

is no other information on the casing other that what can be seen at the surface. The southern well is assumed to be the result of agricultural activities.

Do to their poor condition, the wells appear to be acting as potential pathways for brackish water to enter into active water production aquifers. Due to the age of the wells and the expected poor conditions of the steel material of the well, explosive well perforation would be utilized in lieu of perforating by use of a mills knife. Cement or a sand cement slurry grout would then be used to seal each well. Although the wells are 106 and 50 years of age, respectively, their physical condition is compromised greatly due to their deterioration. The condition of the well casings makes it difficult to determine their potential significance as a historical resource. The District has thoroughly researched all available information (i.e., driller reports, etc.) about the nature and origins of the wells. Per information provided by the District, the wells are typical of other agricultural/irrigation wells found throughout the San Francisco Bay Area and California. Their archaeological integrity of materials, workmanship, and design have been compromised due to this deterioration; as such, they do not appear to have the potential for inclusion in the California Register of Historical Resources.

Native American Heritage Commission.LSA requested a review of the Native American Heritage Commission (NAHC) Sacred Lands File on July 20, 2020, for any Native American cultural resources located within the project area. LSA received a response on July 21, 2020, from Ms. Sarah Fonseca, Associate Governmental Program Analyst, stating that "The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative."

Field Survey Methods and Results.A field survey of the project site was conducted on August 10, 2020. Exposed soils were inspected for precontact (e.g., stone tools, debitage, groundstone, and shell beads), historic-period materials (e.g., metal, glass, ceramics), and soil discolorations that might indicate the presence of archaeological deposits. The field survey encompassed the access road from Cedar Boulevard to the two project sites. The area was walked in zig-zag transects spaced approximately 5 to 8 meters apart. The northern well site was overgrown with thick vegetation related to a wet setting; the southern well was located approximately 30 feet north of the prominent silo in the project site. No additional cultural resources were identified during the survey.

Although the existing wells meet the general age requirement of 50 years for consideration as historic properties under Section 106 of the National Historic Preservation Act of 1966 (as amended) and as historical resources under CEQA,[7] they do not appear eligible for listing in either the National Register of Historic Places or California Register of Historical Resources due to a lack of historical integrity and a lack of any significant associations, nor do they otherwise constitute a historical resource for the purposes of CEQA.

Summary. The NWIC records search and field survey did not identify cultural resources on the project site. One cultural resource, C-148, is located adjacent to the work area for Well #1 along the east bank of the Alameda County Flood Control drainage. As described above, because the two

[7] The California Register does not specifically reference a "50-year rule." Regulations governing the types of historical resources and criteria for eligibility and listing in the California Register states: "In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource" (14 CCR §4852(d)(2)).

existing wells do not constitute historical resources, their demolition would not result in a significant impact.Despite the negative results of the records search and field survey, it cannot be entirely be ruled out that archaeological cultural resources could be encountered during project construction activities. Should such deposits be encountered during project ground disturbance, a substantial adverse change in the significance of a historical resource would occur from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)). To mitigate this potential impact, the District would be required to implement Mitigation Measure CULT-1: Accidental Discovery of Archaeological Historical Resources. With implementation of Mitigation Measure CULT-1, potential impacts to historical resources would be reduced to less than significant.

Mitigation Measure CULT-1: Should an archaeological deposit be encountered during project subsurface demolition activities, all ground-disturbing activities within 25 feet shall be redirected and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology contacted to assess the situation, determine if the deposit qualifies as a historical resource, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If the deposit is found to be significant (i.e., eligible for listing in the California Register of Historical Resources), the District shall be responsible for funding and implementing appropriate mitigation measures. Mitigation measures may include recording the archaeological deposit, data recovery and analysis, and public outreach regarding the scientific and cultural importance of the discovery. Upon completion of the selected mitigations, a report documenting methods, findings, and recommendations shall be prepared and submitted to the District for review, and the final report shall be submitted to the Northwest Information Center at Sonoma State University. Significant archaeological materials shall be submitted to an appropriate local curation facility and used for future research and public interpretive displays, as appropriate.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? ***(Less Than Significant with Mitigation Incorporated)***

According to the CEQA Guidelines, "When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource" (CEQA Guidelines Section 15064.5(c)(1)). Those archaeological sites that do not qualify as historical resources shall be assessed to determine if these qualify as "unique archaeological resources" (California PRC Section 21083.2). Archaeological deposits identified during project construction shall be treated by the project sponsor—in consultation with a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology—in accordance with Mitigation Measure CULT-1. Therefore, with implementation of Mitigation Measure CULT-1, impacts related to archaeological resources would be less than significant.

c. Would the project disturb any humans remains, including those interred outside of formal cemeteries? ***(Less-Than-Significant Impact)***

Based on previous archaeological investigation and analysis, there is a low potential for the disturbance of archaeological cultural resources or human remains as a result of the proposed project. In the event that human remains are identified during project activities, these remains would be required to be treated in accordance with Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code, as appropriate. Section 7050.5 of the California Health and Safety Code states that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendent (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Compliance with the California Health and Safety Code would ensure that impacts to human remains would be less than significant.

3.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation? ***(Less-Than-Significant-Impact)***

This analysis evaluates energy consumption for both construction and operation of the proposed project, including diesel fuel use for construction off-road equipment.

Construction. Demolition of the two abandoned irrigation wells would require the use of energy to fuel construction equipment and vehicles. All or most of this energy would be derived from non-renewable resources. Construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. Energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. As such, construction energy usage would be less than significant. In addition, implementation of Mitigation Measure AIR-1 (refer to Section 3.3, Air Quality) would restrict equipment idling times to 5 minutes or less and construction workers would be required to shut off idle equipment, which would increase energy efficiency on the site during project construction. Therefore, impacts would be less than significant.

Operation. Typically, energy consumption is associated with fuel used for vehicle trips and electricity and natural gas use. The proposed project would result in the demolition of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. Once demolition activities are complete, the project would not result in energy use. Therefore, operational energy impacts would be less than significant.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? ***(Less-Than-Significant Impact)***

In 2002, the Legislature passed Senate Bill 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. The CEC

recently adopted the 2019 Integrated Energy Policy Report.[8] The 2019 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs.

As indicated above, energy usage in the project area during construction would be relatively small in comparison to the State's available energy sources and energy impacts would be negligible at the regional level. Once demolition activities are complete, the project would not result in energy use. Because California's energy conservation planning actions are conducted at a regional level, and because the project's total impact to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the 2019 Integrated Energy Policy Report. Thus, as shown above, the project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and not result in any irreversible or irretrievable commitments of energy. Impacts would be less than significant.

[8] California Energy Commission. 2020. *2019 Integrated Energy Policy Report.* California Energy Commission. Docket # 19-IEPR-01. February.

3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause 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.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
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?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

a. Would the project directly or indirectly cause 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. ***(No Impact)***

Surface rupture occurs when the ground surface is broken due to fault movement during an earthquake. The location of surface rupture generally can be assumed to be along an active or potentially active major fault trace.

The State of California enacted the Alquist-Priolo Fault Zoning Act in 1972, requiring the State Geologist to delineate Earthquake Fault Zones (EFZs) along known active faults that have high potential for fault rupture. The project site does not lie within a designated EFZ.[9] Therefore, the

[9] California Department of Conservation. 2018. Earthquake Zones of Required Investigation. Website: maps.conservation.ca.gov/cgs/EQZApp/app (accessed August 20, 2020).

project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault.

ii. Strong seismic ground shaking? ***(No Impact)***

The project site and the entire San Francisco Bay Area is in a seismically active region subject to strong seismic ground shaking. Ground shaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The extent of ground-shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. The magnitude of a seismic event is a measure of the energy released by an earthquake; it is assessed by seismographs that measure the amplitude of seismic waves. The intensity of an earthquake is a subjective measure of the perceptible effects of a seismic event at a given point. The Modified Mercalli Intensity (MMI) scale is the most commonly used scale to measure the subjective effects of earthquake intensity. It uses values ranging from I to XII.[10] The closest fault to the project site is the Hayward Fault, located to the east.

Mapping has been performed by the Association of Bay Area Governments (ABAG) for the likely shaking intensities in the Bay Area that would have a 10 percent chance of occurring in any 50-year period. A large earthquake (magnitude 6.7 or greater) on one of the major active faults in the region would generate severe (MMI 8) ground shaking at the project site.[11]

The proposed project would destroy two existing irrigation wells, by cleaning out, perforating and then sealing them with a neat cement or sand cement slurry. Demolition activities would be conducted in accordance with District procedures and performed by an appropriately-licensed contractor. No businesses or residences would be constructed as part of the proposed project and people would not regularly access the project site upon completion. Therefore, the proposed project would not expose people or structures to substantial effects related to ground-shaking.

iii. Seismic-related ground failure, including liquefaction? ***(No Impact)***

Liquefaction is the transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake shaking or other rapid loading. Soils most susceptible to liquefaction are loose to medium dense, saturated sands, silty sands, sandy silts, non-plastic silts and gravels with poor drainage, or those capped by or containing seams of impermeable sediment.

The California Geological Survey (CGS) has mapped Seismic Hazard Zones that delineate areas susceptible to liquefaction and/or landslides that require proposed new developments in these areas to conduct additional investigation to determine the extent and magnitude of potential

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[10] United States Geological Survey. 2018. The Modified Mercalli Intensity Scale. Website: www.usgs.gov/natural-hazards/earthquake-hazards/science/modified-mercalli-intensity-scale?qt-science_center_objects=0#qt-science_center_objects (accessed August 20, 2020).

[11] Association of Bay Area Governments. 2020a. MTC/ABAG Hazard Viewer Map, Probabilistic Earthquake Shaking Hazard. Website: mtc.maps.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8 (accessed August 20, 2020).

ground failure. According to CGS, the project site is located within a Seismic Hazard Zone for liquefaction.[12] Mapping performed by ABAG indicates that the project site is in an area of moderate liquefaction susceptibility.[13]

The proposed project would demolish two existing irrigation wells and seal them with a neat cement or sand cement slurry. Upon completion, the wells would be destroyed and not subject to the effects of liquefaction. Therefore, the proposed project would have no impact related to seismic-related ground failure, including liquefaction.

iv. Landslides? ***(No Impact)***

The project area and surrounding vicinity is generally level and is not located within an earthquake-induced or rainfall-induced landslide zone.[14] Therefore, the project area is not subject to landslides. Implementation of the project would not adversely impact persons or structures due to landslides.

b. Would the project result in substantial soil erosion or the loss of topsoil? ***(Less-Than-Significant Impact)***

Construction activities would include vegetation removal and clearing and drilling of the two existing wells, all of which could increase erosion potential due to water and wind. However, construction specifications include Best Management Practices (BMPs), including placement of silt fencing around the work area. Although not required to mitigate a significant impact, soil erosion and loss of topsoil would be further minimized through implementation of Mitigation Measure AIR-1 (BAAQMD fugitive dust control measures). Implementation of BMPs, included as part of the proposed project, would reduce potential impacts to soil erosion or the loss of topsoil to a less than significant level.

c. Would the project 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? ***(No Impact)***

Please refer to Section 3.7.a. As previously described, the project site is located on relatively level terrain. The proposed project would result in the demolition and sealing of two existing irrigation wells. Demolition activities would be conducted in accordance with District procedures and performed by an appropriately-licensed contractor. In addition, all field operations would be under the direct supervision of a professional geologist licensed in the State of California, who would review all procedures and protocols outlined for the project and assure that Standard of Practice for the work proposed is followed and documented. The project site is not anticipated to become

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12 California Geological Survey. 2003. Earthquake Zones of Required Investigation, Niles Quadrangle. Website: maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps (accessed July 14, 2020).

13 Association of Bay Area Governments. 2020b. Liquefaction Susceptibility Map. Website: mtc.maps.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8 (accessed July 14, 2020).

14 Association of Bay Area Governments. 2020c. Interactive Landslide Hazards Map. Available online at: mtc.maps.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8 (accessed July 14, 2020).

unstable as a result of the proposed project, or potentially result in on- or off-site landslides, liquefaction, or lateral spreading. Therefore, the proposed project would not result in a geologic hazard from landslide, lateral spreading, subsidence, liquefaction or collapse.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? ***(Less-Than-Significant Impact)***

Expansion and contraction of volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). During these cycles, the volume of the soil changes markedly. Changes in soil volume could result in significant expansion pressure on the proposed pipeline. Expansive soils are common throughout California and can cause damage to foundations and slabs unless properly treated during construction.

The soil type found at the project site is Marvin silt loam, saline-alkali, according to the Natural Resources Conservation Service web soil survey.[15] The shrink-swell potential for this soil type is high.[16] The proposed project would demolish and seal two existing irrigation wells. Demolition activities would be conducted in accordance with District procedures and performed by an appropriately-licensed contractor. No businesses or residences would be constructed as part of the proposed project. Therefore, impacts associated with expansive soils would be less than significant.

e. Would the project 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)***

Implementation of the project would not include installation of septic tanks or alternative wastewater disposal systems. Therefore, there would be no impact to soils and wastewater disposal.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ***(Less Than Significant With Mitigation Incorporated)***

The proposed project would require excavation within the existing wells. However, because the wells have already been drilled, it is unlikely that drilling associated with well demolition would encounter paleontological resources. However, in the event that fossil remains are encountered, or paleontologically sensitive formations are exposed, impacts to paleontological resources could occur. Implementation of Mitigation Measure GEO-1 would reduce potential impacts to paleontological resources to less than significant.

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15 United States Department of Agriculture Soil Conservation Service. 2019. Web Soil Survey. Website: websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (accessed July 14, 2020).

16 United States Department of Agriculture Soil Conservation Service. 1975. Soil Survey of Alameda County, Western Part. Available online at: www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/CA610/0/alameda.pdf (accessed July 14, 202).

Mitigation Measure GEO-1: If fossil remains or paleontologically sensitive bedrock is exposed during project construction, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist shall be contacted to review the find. The project team (the District and the paleontologist) shall develop and implement a plan for impact avoidance. Should avoidance be infeasible due to engineering requirements, the project team shall develop and implement a plan to offset the loss of paleontological data through the implementation of a data recovery project, including paleontological recovery. If determined to be a unique paleontological resource, the potentially significant impacts caused by construction may be mitigated through monitoring during construction activity (beyond the area of the initial find), and, if warranted by potential finds, recovery of fossils; preservation, stabilization, and identification of collected resources; curation of resources into a museum repository; and preparation of a final report documenting the monitoring methods and results, to be submitted to the District.

3.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Greenhouse gas emissions (GHGs) are present in the atmosphere naturally, and are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. However, over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global climate change. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

While GHGs produced by human activities include naturally occurring GHGs such as CO_2, CH_4, and N_2O, some gases, such as HFCs, PFCs, and SF_6, are completely new to the atmosphere. Certain other gases, such as water vapor, are short-lived in the atmosphere compared to those GHGs that remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this analysis, the term “GHGs” will refer collectively to the six gases identified in the bulleted list provided above.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere (“atmospheric

lifetime"). The GWP of each gas is measured relative to carbon dioxide, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e). For example, sulfur hexafluoride is 22,800 times more potent at contributing to global warming than carbon dioxide.

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? ***(Less-Than-Significant Impact)***

This section describes the proposed project's construction- and operational-related GHG emissions and contribution to global climate change. The BAAQMD CEQA Guidelines do not address construction emission thresholds; however, the BAAQMD encourages quantification and disclosure. Thus, construction emissions are discussed in this section.

Construction Activities. Demolition of the two abandoned wells would produce combustion emissions from various sources. During demolition activities, GHGs would be emitted through the operation of construction equipment and from worker vehicles, which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using RoadMod, it is estimated that construction of the proposed project would generate approximately 15.9 metric tons of CO_2e. Although not required to reduce a significant impact, implementation of Mitigation Measure AIR-1 would reduce GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment. Therefore, project construction impacts associated with GHG emissions would be considered less than significant.

Operational Emissions. Long-term air emission impacts are associated with stationary sources and mobile sources. Stationary source emissions result from the consumption of natural gas and electricity. Mobile source emissions result from vehicle trips and result in air pollutant emissions affecting the entire air basin. As discussed above, the proposed project would result in the demolition of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. Once demolition is complete, the project would not result in an increase in the generation of vehicle trips or vehicle miles traveled that would increase air pollutant emissions. The project would not be a source of stationary source emissions. Therefore, the proposed project would not result in a cumulatively considerable net increase of operational PM_{10} or any criteria pollutant for which the project region is non-attainment under an applicable federal or State AAQS and impacts would be less than significant.

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? ***(Less-Than-Significant Impact)***

On January 28, 2010, the City of Newark adopted the Climate Action Plan (CAP) Initial Framework. The CAP includes actions the City has successfully implemented, as well as sections that guide the

City, residents, and businesses to participate in future greenhouse gas emissions reduction activities. The primary goals of the final CAP are to present a comprehensive inventory of municipal (City government-generated) and community-generated emissions, identify reduction targets, and propose practical steps to reach those targets. The secondary goal of the final CAP is to identify and prepare for the environmental changes associated with climate change, such as the forecasted water level rise of the San Francisco Bay. This CAP will align City goals with State goals.

Municipal Action Item 3.9.3, Water Conservation, recommends considering water conservation measures. The proposed project would be consistent with this measure as the project would result in the demolition of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. In addition, the proposed project would not result in a substantial increase in GHG emissions and, therefore, would be consistent with the CAP. Therefore, the proposed project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be less than significant.

3.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
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?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ***(No Impact)***

The proposed project would result in the demolition and sealing of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. Following demolition activities, the wells would no longer be in operation. Therefore, the proposed project would not create a significant hazard to the public or the environmental through the routine transport, use or disposal of hazardous materials and no impact would occur.

b. Would the project 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)***

Hazardous substances include chemicals regulated under both the United States Department of Transportation[17] and the U.S. Environmental Protection Agency (USEPA)[18] "Hazardous Materials" regulations. Hazardous waste requires specific handling and disposal procedures because of potential damage to public health and the environment. Demolition would require drilling the existing wells and using explosive detonation to perforate the well casing. Upon perforation, the neat cement or sand cement slurry would intrude into the breaks in the casing and seal up the well. These activities would require the use of hazardous materials, which, if released, could create a hazard to the public or the environment. Such materials would include bentonite clay powder, which may be used to thicken up the drilling mud to lift out the debris in the well casing and detonation cord to perforate the well casing. These materials would be kept at construction staging areas, and would be secured when not in use. In the unlikely event of a spill, fuels would be controlled and disposed of in accordance with applicable regulations. As outlined in Section 1.0, Project Information, wells would be drilled by a drilling contractor licensed by the State of California and all activities would be monitored by a professional geologist and a District inspector. Further, the project contractor would be required to comply with existing government regulations in the use and disposal of any hazardous materials. Following the two-week period required for demolition, no hazardous materials would be used at the project site. Compliance with existing federal, State, and local regulations related to hazardous materials would ensure that development of the proposed project would not create a significant hazard to the public or environment. This impact would be less than significant.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ***(No Impact)***

Schools in the project area include: Lincoln Elementary School, located approximately 0.2 miles to the north of the project site, and August Schilling Elementary School, located approximately 0.5 miles to the southeast of the project site. As described above, the proposed project would demolish and seal two existing irrigation wells and would not result in the routine use, transport or disposal of substantial quantities of hazardous materials. Therefore, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school and no impact would occur.

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17 United States Department of Transportation. 2017. *Hazardous Materials Regulations.* Website: www.phmsa.dot.gov/standards-rulemaking/hazmat/hazardous-materials-regulations (accessed August 20, 2020).

18 United States Environmental Protection Agency. 2019. Resource Conservation and Recovery Act Regulations, Hazardous Waste. Website: www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-regulations#haz (accessed August 20, 2020).

d. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? ***(No Impact)***

The project site is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and therefore would not create a hazard to the public or environment. According to the California State Water Resources Control Board (SWRCB) Geotracker website, there are no State-listed hazardous materials clean-up sites located within 1,000 feet of the project site.[19] Therefore, the proposed project would not be located on site, which would create a significant hazard to the public or environment and no impact would occur.

e. Would the project be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? ***(No Impact)***

The project site is not located within an airport land use plan, or within 2 miles of a public airport or public use airport. The closest airports to the project site are the Hayward Executive Airport, located approximately 10 miles to the north, and the Palo Alto Airport, located approximately 6.5 miles to the west of the project site, and the Mineta San José International Airport, located approximately 14 miles to the south. The proposed project would not result in new development and is not within proximity of any airports; therefore, the project would not result in a safety hazard for people residing or working in the project area and no impact would occur.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? ***(No Impact)***

Because the proposed project would not alter or block adjacent roadways, implementation of the proposed project would not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. No impact would occur.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? ***(No Impact)***

The project site is located within the Mayhews Landing Unit of the Refuge, which is a Federal Responsibility Area. According to the California Department of Fire and Forestry Protection, the project site is not located in a Very High Fire Hazard Severity Zone.[20] Therefore, the proposed project would not expose people or structures to a significant loss, injury or death involving wildland fires and no impact would occur.

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[19] State Water Resources Control Board. 2020. GeoTracker. Website: geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=42900+Paseo+Padre+Parkway%2C+Fremont%2C+CA+ (accessed August 20, 2020).

[20] California Department of Fire and Forestry Protection (CAL FIRE). 2008. Alameda County Very High Fire Hazard Severity Zones in LRA. Available online at: osfm.fire.ca.gov/media/6638/fhszl_map1.pdf (accessed August 20, 2020).

3.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☒	☐	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☒	☐	☐
i. Result in substantial erosion or siltation on- or off-site;	☐	☒	☐	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. 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; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

The project site is located within the Lower Alameda Creek Watershed, which is further subdivided into three subwatersheds. The project site is located within the Sanjon de los Alisos subwatershed, which is an old tributary of Alameda Creek that used to carry waters when Alameda Creek flooded out of its banks. It now carries urban runoff into Newark Slough.

The City of Newark is located within the Niles Cone Subbasin of the Santa Clara Valley Groundwater Basin. The Niles Cone Subbasin covers an approximately 105-square-mile area and is bounded on the east by the Diablo Range and on the west by San Francisco Bay. The Hayward Fault intersects the easterly edge of the basin and interrupts groundwater flowing westward. This separates the basin into two zones, one above the Hayward Fault (AHF) and one below the Hayward Fault (BHF). The AHF zone has significantly higher groundwater levels than the BHF.

The Niles Cone Subbasin consists mainly of the alluvial fan formed by Alameda Creek as it exits the Diablo Range and flows toward San Francisco Bay. Most of the water-bearing materials are comprised of Quaternary alluvium. The Newark Aquifer is the uppermost aquifer underlying the City of Newark and consists of an extensive permeable gravel and sand layer between 40 and 140 feet below ground surface (bgs). Beneath the Newark Aquifer are the Centerville Aquifer (between 180

and 200 feet bgs), the Fremont Aquifer (between 300 and 390 feet bgs) and the Deep Aquifer (between 400 and 500 feet bgs).[21]

Stormwater runoff water quality is regulated by the federal National Pollution Discharge Elimination System (NPDES) Program, which controls the discharge of pollutants to water bodies from point and non-point sources. In the Bay Area, this federal regulatory program is administered by the San Francisco Bay Regional Water Quality Control Board (RWQCB), expanded in 1990 to include permitting of stormwater discharges from storm sewer systems, industrial activities and construction sites that disturb more than 1 acre. In addition, the project site would be under the jurisdiction of the Alameda Countywide Clean Water Program (ACCWP), of which the City of Newark is a participant. ACCWP is a group of local government agencies that operate under one common NPDES Municipal Regional Stormwater Discharge Permit.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map No. 06001C0441G (August 3, 2009), the project site is not located within a 100-year flood hazard zone.[22] The project site is located in Zone X, which is an area of 0.2 percent annual chance flood hazard or an area of 1 percent annual chance flood with average depth less than 1 foot or with drainage areas of less than 1 square mile.

The City of Newark is located within the inundation areas of three dams: Del Valle, Turner, and Calaveras, all of which are classified as high hazard dams because their failure could result in a significant loss of life and property damage.[23] The project site is located within the dam inundation area for these three dams.

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? ***(Less Than Significant with Mitigation Incorporated)***

Construction. Pollutants of concern during project construction include sediments, trash, petroleum products, sanitary waste, and chemicals. Prior to drilling, vegetation would be cleared within the work area and a backhoe would be utilized to expose the well head and clear an area for the drilling equipment to setup over the well. During drilling activities, cuttings and drilling mud would be stored on site. During demolition activities, there would be an increased potential for soil erosion and transport of sediment downstream compared to existing conditions. During a storm event, soil erosion could occur at an accelerated rate. Construction-related pollutants such as chemicals, liquid and petroleum products (e.g., paints, solvents, and fuels), and well-related waste could be spilled, leaked or transported via storm runoff into adjacent drainages and into downstream receiving

21 The Planning Center/DCE. 2013. *General Plan Tune Up Draft Program EIR for the City of Newark*. Website: www.newark.org/departments/community-development/newark-general-plan (accessed August 20, 2020). August 13.

22 Federal Emergency Management Agency. FEMA Flood Map Service Center, Thornton Avenue, Newark, CA. Website: msc.fema.gov/portal/search?AddressQuery=Thornton%20Avenue%2C%20Newark%2C%20CA#searchresultsanchor (accessed August 20, 2020).

23 The Planning Center/DCE. 2013, op. cit.

waters. Any of these pollutants has the potential to be transported via stormwater runoff into receiving waters (i.e., Newark Slough).

Because the project site is less than one acre in size, the proposed project would not be subject to the requirements of the State Water Resources Control Board's NPDES) General Permit for Storm Water Discharge Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by Orders No. 2010-0014-DWQ and 2012-0006-DWQ, NPDES No. CAS000002) (Construction General Permit). However, as outlined in Section 1.0, Project Information, silt fencing would be installed around the project site. In addition the project would be required to implement general conservation measures, consistent with the USFWS SUP and identified in Mitigation Measure BIO-1, to prevent spills, leaks, and discharge of construction debris and waste into receiving waters to avoid impacts to special status species. Implementation of Mitigation Measure BIO-1 would ensure that the proposed project would result in less-than-significant impacts to water quality during construction.

Operation. The proposed project would result in the demolition of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. Following demolition activities, the ground surface would be returned to pre-construction conditions. The proposed project would not result in any increase in impervious surface area or an associated increase in the rate and volume of stormwater runoff. Therefore, implementation of the project would not result in any long-term operational impacts that would violate any water quality standards or waste discharge requirements.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? ***(No Impact)***

The proposed project would not result in any changes to impervious surface area. The proposed project would result in the demolition of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. The proposed project is intended to improve groundwater management by removing these existing wells. Groundwater would not be extracted and the project would not result in the development of large areas of impervious surfaces that would prevent water from infiltrating into the groundwater nor would it result in direct additions or withdrawals to existing groundwater. Therefore, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, such that the project may impede sustainable groundwater management of the basin. No impact would occur.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site;
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
iii. 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; or
iv. Impede or redirect flood flows? ***(Less Than Significant with Mitigation Incorporated)***

The proposed project would require minimal grading and disturbance. No streams or rivers would be affected by project construction. During demolition activities, some excavated soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and the transport of sediment downstream compared with existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. However, as outlined in Section 1.0, Project Information, silt fencing would be installed around the project site. In addition, as specified in Mitigation Measures BIO-1, the proposed project would implement general conservation measures, including maintenance of vehicles to prevent leaks and proper storage of hazardous materials, to reduce impacts to water quality during construction, including those impacts associated with soil erosion, and siltation. Therefore, with implementation of BMPs included as part of the project and adherence to the requirements outlined in Mitigation Measure BIO-1, construction of the project would result in a less-than-significant impact related to altering the existing drainage pattern of the project site during construction activities in a manner that would result in substantial erosion or siltation on- or off-site, increase surface runoff, result in flooding or impede or redirect flood flows.

The proposed project would result in the demolition of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. Following demolition activities, the ground surface would be returned to pre-construction conditions. The proposed project would not result in any increase in impervious surface area or an associated increase in the rate and volume of stormwater runoff. Therefore, no significant change in either drainage patterns or on-site or off-site effects from erosion and siltation would occur and this impact would be less than significant.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation? ***(Less-Than-Significant Impact)***

The project site is not located within a 100-year flood hazard zone as mapped by FEMA.

Dam failure is defined as the structural collapse of a dam that releases the water stored in a reservoir behind the dam. A dam failure is usually the result of the age of the structure, inadequate spillway capacity, or structural damage caused by an earthquake or flood. As described above, earthquake-induced dam failure of the James Turner, Del Valle, or Calaveras Dams could have serious effects on the City of Newark and the project site. These dams are evaluated annually by the California Division of Safety Dams to ensure that they are safely performing as intended. Regular inspections and required maintenance of the dams substantially reduce the potential for

catastrophic failure. Existing dam inspection and maintenance programs ensure that dam failures remain a very low probability event.

The project site is not located within a mapped tsunami area for Alameda County and no seismically induced seiche waves have been documented in the San Francisco Bay throughout history;[24,25] therefore, this impact would be less than significant.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? ***(Less Than Significant with Mitigation Incorporated)***

As discussed above, the project site is limited in size and construction activities would occur for a limited duration. Compliance with the USFWS SUP would require implementation of general conservation measures to protect water quality, such as establishment of silt fencing around the work area, as detailed in Section 1.0, Project Information. Implementation of these measures would ensure that the proposed project would not conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan. As a result, this impact would be less than significant.

[24] California Department of Conservation. 2009. Alameda County Tsunami Inundation Maps. Website: www.conservation.ca.gov/cgs/tsunami/maps/Alameda (accessed August 18, 2020).

[25] Association of Bay Area Governments and Metropolitan Transportation Commission. 2013. *Plan Bay Area.* July 18.

3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

a. Would the project physically divide an established community? ***(No Impact)***

The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. Implementation of the project would result in demolition and sealing of two existing irrigation wells within the Refuge. Therefore, implementation of the project would not physically divide an established community and no impact would occur.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? ***(No Impact)***

The proposed project would result in demolition and sealing of two existing irrigation wells. The proposed project would not change existing land use within the project area and would not result in the conversion of adjacent land uses or conflicts with applicable City land use designations or zoning standards. In addition, the project site is located within the Mayhews Landing Unit of the Refuge; therefore, project work would be required to comply with the provisions of the SUP issued by the USWFS, including implementation of measures to protect natural resources and sensitive species at the project site. Therefore, the proposed project would not conflict with any applicable land use plan, policy or regulation with jurisdiction over the project.

3.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

*a. Would the project 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)***

Minerals are any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances including, but not limited to, coal, peat and oil bearing rock, but excluding geothermal resources, natural gas and petroleum. The State Board of Mining and Geology has identified mineral resource zones (MRZ) containing sand, gravel, and stone deposits used for concrete aggregate underlying almost all of the City of Newark. Identified MRZs include land classified as MRZ-2 (areas where significant mineral deposits are present or likely present) and MRZ-3 (areas containing mineral deposits, the significance of which cannot be evaluated from available data).[26] However, there are currently no mineral recovery sites in Newark and no mining is conducted within the Refuge. Therefore, the proposed project would not result in the loss of availability of a known mineral resources that would be of value of the region and the residents of the state.

*b. Would the project 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 locally-important mineral resource recovery sites are located within the City of Newark. Therefore, the proposed project would not 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.

[26] The Planning Center/DCE. 2013, op. cit.

3.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
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?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
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 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; and similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements that better represent human sensitivity to sound at night.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within one dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

A project would have a significant noise effect if it would substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of applicable regulatory agencies, including, as appropriate, the City of Newark.

The City of Newark addresses noise in the Environmental Hazards Element of the General Plan[27] and in the Municipal Code.[28] The Environmental Hazards Element of the General Plan provides the City's goals, policies, and actions related to noise, which work to maintain the peace and quiet of Newark neighborhoods and promote an environment where noise does not adversely affect sensitive land uses. Policy EH-6.6 Construction Noise – Regulating Construction Hours requires the reduction of noise associated with construction activities by prohibiting construction in residential neighborhoods between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday and at all times on Saturdays, Sundays, and State/federal holidays.

In addition, Policy EH-6.7 Construction Noise – Addressing Sources of Construction Noise requires the reduction of noise associated with construction activities by requiring properly maintained mufflers on construction vehicles, requiring the placement of stationary construction equipment as far as possible from developed areas, and requiring temporary acoustical barriers/shielding to minimize construction noise impacts at adjacent receptors. Special attention should be paid to noise-sensitive receptors (including residential, hospital, school, and religious land uses).

The City also addresses noise in Chapter 17.24.100 – Noise of the Municipal Code. The Municipal Code states that unless otherwise provided pursuant to a duly-issued permit or a condition of approval of a land use entitlement, the construction, alteration, or repair of structures and any landscaping activities, occurring between the hours of 10:00 a.m. and 6:00 p.m. on Sundays and holidays, and 7:00 a.m. and 7:00 p.m. on other days, shall be subject to the following:

- No individual device or piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25 feet from the source. If the device or equipment is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close as possible to twenty-five feet from the equipment.

- The noise level at any point outside of the property plane shall not exceed 86 dBA. During all other times, the decibel levels set forth in Subsection 17.24.100.A.2, Noise Restriction by Decibel, control.

Certain land uses are considered more sensitive to noise than others. Examples of these land uses include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The closest sensitive receptors include the residential development located approximately 120 feet east.

[27] Newark, City of. 2013, op. cit.

[28] Newark, City of. 2018. Newark Municipal Code, Chapter 17.24.100 – Noise. June 27.

a. Would the project result in 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 with Mitigation Incorporated)***

The following section describes how the short-term construction and long-term operational noise impacts of the proposed project would be less than significant with implementation of recommended mitigation measures.

Short-Term (Construction) Noise Impacts. Demolition of the two abandoned irrigation wells would result in short-term noise impacts on the nearby sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone.

Short-term noise impacts would occur during limited vegetation clearing site preparation activities. Table B lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor, obtained from the Federal Highway Administration (FHWA) Roadway Construction Noise Model. Construction-related short-term noise levels would be higher than existing ambient noise levels currently in the project area but would no longer occur once construction of the project is completed.

In addition, as described in Section 1.0, Project Information, at each of the well sites, the well would be exposed and any debris drilled out to the total depth of the well. Due to the age of the wells and the expected poor conditions of the steel material of the well, explosive well perforation would be utilized and cement or a sand cement slurry grout would be used to seal each well.

Prior to drilling, vegetation would be cleared within the work area and the work area would be enclosed with silt-fencing. A backhoe would then be utilized to expose the well head and clear an area for the drilling equipment to setup over the well.

When the drills are spinning the bit, noise levels reach approximately 78 to 80 decibels. Idling noise levels are lower. All wells would be measured and an appropriately sized drill head would be used to remove all debris in the well. Each well would be drilled out to the total depth of the well (estimated depth is approximately 350 feet). Standard equipment needed for drilling to this depth normally includes: 1) a 20- to 30-foot-long flatbed with mounted drilling equipment; 2) a 20- to 25-foot-long support flatbed truck with additional drill stems, bags of cement, and water; 3) containers for storing cuttings and drilling mud; 4) a crew of three (one driller and two helpers); and 5) a District inspector with a District pickup truck.

This analysis assumes that a flatbed truck, backhoe, drill, and pickup truck would be operating simultaneously during construction activities. Based on the typical construction equipment noise levels shown in Table B and the noise levels of the drill, noise levels associated with these pieces of construction equipment operating simultaneously would be approximately 87 dBA L_{max} at 50 feet.

Table B: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 Feet[1]
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (Federal Highway Administration 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston Noise Code for the "Big Dig" project.
L_{max} = maximum instantaneous sound level

As noted above, the closest sensitive receptors to the project site include the residential development located approximately 120 feet east. At 120 feet, there would be a decrease of approximately 9 dBA from the increased distance compared to the noise level measured at 50 feet from the active construction area. Therefore, the closest sensitive receptor may be subject to short-term maximum construction noise reaching 79 dBA L_{max} during construction.

The City's Municipal Code also stipulates that no individual device or piece of equipment shall produce a noise level exceeding 83 dBA at a distance of 25 feet from the source and the noise level at any point outside of the property plane shall not exceed 86 dBA. As discussed above, the maximum noise levels of the project would range up to 87 dBA L_{max} at 50 feet during the noisiest construction phase. When adjusted for distance, at 25 feet, maximum noise levels would range up to 81 dBA L_{max}. Therefore, construction noise levels would not exceed the City's construction noise standards.

In addition, Mitigation Measure NOI-1 would be required to limit construction activities to daytime hours and would reduce potential construction period noise impacts for the indicated sensitive receptors to less-than-significant levels as required by Policy EH.6-7 of the City's General Plan.

Mitigation Measure NOI-1: The project contractor shall implement the following measures during construction of the project:

- Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active project site.
- Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active project site during all construction activities.
- Ensure that all general construction related activities are restricted to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday.
- Designate a "disturbance coordinator" at the City who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem.

Implementation of Mitigation Measure NOI-1 would limit construction hours and require the construction contractor to implement noise reducing measures during construction, which would reduce short-term construction noise impacts to a less-than-significant level.

Operational Noise Impacts. The proposed project would result in the demolition of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. Once construction activities are complete, the proposed project would not result in an increase in operational vehicle trips and would not be a source of operational noise. Therefore, the proposed project would not expose persons to noise levels in excess of local standards. Operational noise impacts would be considered less than significant.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels? ***(Less-Than-Significant Impact)***

Common sources of groundborne vibration and noise include trains and construction activities such as blasting, pile driving, and operating heavy earthmoving equipment. Construction of the proposed project would involve site preparation and construction activities but would not involve the use of construction equipment that would result in substantial groundborne vibration or groundborne noise on properties adjacent to the project site. No pile driving, blasting, or significant grading

activities are proposed. Furthermore, operation of the proposed project would not generate substantial groundborne noise and vibration. Therefore, the project would not result in the exposure of persons to or generation of excessive groundborne noise and vibration impacts would be less than significant.

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 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? ***(No Impact)***

The proposed project is not located within 2 miles of a public or public use airport. Aircraft noise is occasionally audible at the project site; however, no portion of the project site lies within the 60 dBA CNEL noise contours of any public airport nor does any portion of the project site lie within 2 miles of any private airfield or heliport. The project would not result in any development of the site and is not within close proximity to an airport; therefore, the proposed project would not result in the exposure of people residing or working in the project area to excessive noise levels. There would be no impact.

3.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned 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)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a. Would the project induce substantial unplanned 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)***

The proposed project would result in the demolition and sealing of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. The proposed project would not provide additional major infrastructure or increase the capacity of the existing water system to accommodate new development nor would the project extend or expand infrastructure or services to existing undeveloped areas in the vicinity of the proposed alignment. The project would not expand the capacity of the current water system or provide additional major infrastructure so as to encourage population growth or new development. The project would not include any new housing, commercial or industrial space. Therefore, the project would not directly or indirectly induce substantial population growth and no impact would occur.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? ***(No Impact)***

The project site is located within the Mayhews Landing Unit of the Refuge; therefore, no housing or people would be displaced as a result of implementation of the project and no impact would occur.

3.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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:				
i. Fire protection?	☐	☐	☐	☒
ii. Police protection?	☐	☐	☐	☒
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

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:

i. Fire protection? ***(No Impact)***
ii. Police protection? ***(No Impact)***
iii. Schools? ***(No Impact)***
iv. Parks? ***(No Impact)***
v. Other public facilities? ***(No Impact)***

The proposed project would result in demolition and sealing of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. The project does not include the construction of structures that would increase the population in the area or that would generate a higher demand for fire or police services, schools, parks, or other public facilities. Therefore, the demand for public services for the project would be the same as under existing conditions and no impact would occur.

3.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

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)***

The proposed project would result in the demolition and sealing of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. No housing would be constructed as part of the project. Therefore, implementation of the project would not increase the use of existing neighborhood or regional parks in the project vicinity. Implementation of the project would not have an adverse effect on existing park facilities and would not generate a demand for additional recreational facilities. Therefore, no impact would occur.

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)***

Refer to Section 3.16.a, above. The project does not include construction or expansion of existing recreational facilities and no impact would occur.

3.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☐	☒

a. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? ***(Less-Than-Significant Impact)***

The Alameda County Transportation Commission (ACTC), the County of Alameda's (County) Congestion Management Agency (CMA), has established a 100 peak-hour trip threshold for requiring preparation of a Traffic Impact Analysis. The threshold assumes that fewer than 100 peak hour trips would not have a substantial effect on the circulation system. As further discussed below, peak hour trip generation would be well below this threshold; therefore, a Traffic Impact Analysis was not prepared. Peak trip generation during project construction and operation is discussed below.

Short-Term (Construction) Impacts. As discussed in Section 1.0, Project Information, project construction is anticipated to start in October 2020 and would require approximately two weeks to complete. Construction activities would typically occur from 8:00 a.m. to 5:00 p.m., Monday through Friday. Laydown areas for construction would be located within an approximately 7,500-square-foot work area around each well head. Access to the project site would likely be via Thornton Avenue and Cedar Avenue. Access to the site for construction would occur via an existing firebreak through the existing gate on Cedar Avenue.

Examples of the types of construction equipment anticipated to be used during construction include: drilling rig, flatbed trucks, and pick-up trucks. The equipment would likely be delivered when its construction phase begins and removed when it ends. It is not expected that heavy equipment related to construction activities would affect the roadway network on a typical day.

Demolition activities would require minimal construction workers (approximately three construction employees and a District inspector) per day during the two-week construction period and would generate negligible vehicle trips during the construction period. Construction period worker trips would be temporary and would be fewer than 100 peak hour trips. Therefore, the project would not

conflict with a program plan, ordinance or policy addressing the circulation system and the impact would be less than significant.

Operational Impacts. Upon completion of demolition activities, no vehicle trips would be generated.

b. Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)? ***(Less-Than-Significant Impact)***

According to the screening threshold for small projects, defined in the State of California Governor's Office of Planning and Research Technical Advisory On Evaluating Transportation Impacts in CEQA dated December 2018, "projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact."

As described above, during the short-term construction activity, minimal daily trips are anticipated, as very few workers would be needed and the construction period would be such short duration. Therefore, in accordance with the Technical Advisory, impacts related to CEQA Guidelines section 15064.3, subdivision (b) can be assumed to be less than significant.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ***(No Impact)***

The proposed project would not change the existing roadway design in the vicinity of the site. During construction, construction vehicles may travel along major arterials and local roadways to access the project site. Project site access is restricted by an existing gate. Any lane closures or traffic control measures required for heavy vehicle ingress/egress through the existing gate would be consistent with those published in the California Joint Utility Traffic Control Manual. Implementing measures contained within the California Joint Utility Traffic Control Manual would facilitate safe passage of both construction vehicles and private vehicles. As a result, the proposed project would not substantially increase hazards for vehicles due to a design feature or incompatible uses and no impact would occur.

d. Would the project result in inadequate emergency access? ***(No Impact)***

Effects of the proposed project on emergency access would be limited to construction and would be temporary in nature. If lane closures are necessary during heavy equipment ingress or egress, only one lane would be closed and emergency access would still be possible along all roadways and full access would be restored upon completion of equipment movement. Therefore, the proposed project would not result in inadequate emergency access and no impact would occur.

3.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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	☐	☒	☐	☐
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.	☐	☒	☐	☐

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)? ***(Less Than Significant with Mitigation Incorporated)*** *Or*

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 with Mitigation Incorporated)***

Assembly Bill 52 (AB 52), which became law on January 1, 2015, provides for consultation with California Native American tribes during the CEQA environmental review process, and equates significant impacts to “tribal cultural resources” with significant environmental impacts. PRC Section 21074 states that “tribal cultural resources” are:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and are one of the following:
- Included or determined to be eligible for inclusion in the California Register of Historical Resources.
- Included in a local register of historical resources as defined in subdivision (k) of PRC Section 5020.1.
- 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A "historical resource" (PRC Section 21084.1), a "unique archaeological resource" (PRC Section 21083.2(g)), or a "nonunique archaeological resource" (PRC Section 21083.2 (h)) may also be a tribal cultural resource if it is included or determined to be eligible for inclusion in the California Register.

The consultation provisions of the law require that a public agency consult with local Native American tribes that have requested placement on that agency's notification list for CEQA projects. Within 14 days of determining that a project application is complete, or a decision by a public agency to undertake a project, the lead agency must notify tribes of the opportunity to consult on the project, should a tribe have previously requested to be on the agency's notification list. California Native American tribes must be recognized by the NAHC as traditionally and culturally affiliated with the project site, and must have previously requested that the lead agency notify them of projects. Tribes have 30 days following notification of a project to request consultation with the lead agency.

The purpose of consultation is to inform the lead agency in its identification and determination of the significance of tribal cultural resources. If a project is determined to result in a significant impact on an identified tribal cultural resource, the consultation process must occur and conclude prior to adoption of a Negative Declaration or Mitigated Negative Declaration, or certification of an Environmental Impact Report (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

None of the tribes contacted for this project responded to the District's invitation to consult within the 30-day notification period, consistent with the requirements of PRC 21080.3.1. As such, tribal consultation for the proposed project was not conducted and the District's obligation under AB 52 is complete.

As discussed in Section 3.5, Cultural Resources, the NWIC records search and the archaeological survey completed for the project did not identify evidence of Native American archaeological deposits or ancestral remains. The proposed project would not impact known tribal cultural resources that are listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources, nor has the District identified a tribal cultural resource at the project site. As noted in Section 3.5, Cultural Resources, implementation of Mitigation Measure CULT-1 would ensure that potential impacts related to previously undiscovered historic or archaeological resources, which are considered tribal cultural resources, would be less than significant.

3.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. 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?	☐	☐	☐	☒
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? ***(No Impact)***

The proposed project would result in demolition and sealing of two existing irrigation wells to prevent saltwater intrusion into the local aquifer. As described below, demolition activities would require limited potable water for drilling fluid, sealing material, dust control and cleanup activities. Following the two-week demolition period, no water, wastewater facilities, gas, or fuels would be required. Therefore, the proposed project would not require or result in the relocation or construction of new or expanded gas, electricity or telecommunications facilities and no impact would occur.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? ***(Less-Than-Significant Impact)***

The project would require potable water for drilling fluid, sealing material, dust control and cleanup activities. Water would be supplied from a nearby fire hydrant. However, the amount of water required would be relatively small and use of water would be temporary and cease upon construction completion. Sufficient water supply is available to accommodate the project's minimal water needs during construction. Following demolition no water would be required. Therefore, the proposed project would have sufficient water supplies available to serve the project. This impact would be less than significant.

c. Would the project 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)***

Refer to Section 3.19.a above. The proposed project would generate no wastewater. Therefore, the project would 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. There would be no impact related to wastewater.

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? ***(Less-Than-Significant Impact)***

Implementation of the project would generate solid waste associated with demolition activities, including pipe debris, concrete, well spoils, and general refuse. It is estimated that the project would generate approximately 550 cubic feet (21 cubic yards) of debris. The closest landfill to the project site is the Newby Island Landfill (approximately 6 miles south). As of October 2014, the Newby Island landfill had remaining capacity of 21.2 million cubic yards, with a total capacity of 57.5 million cubic yards.[29] The quantity of solid waste materials associated with construction would be limited to the construction period, and would not pose a significant impact upon existing landfills. No additional solid waste would be generated by long-term operations of the proposed project. Impacts related to solid waste disposal are considered less than significant.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? ***(Less-Than-Significant Impact)***

As described in Section 3.19.d., implementation of the project would generate solid waste associated with construction activities. To the extent possible, solid waste would be recycled either on-site or transported to a local disposal center for recycling. Solid waste generation would be limited to the construction period; no solid waste would be generated from long-term operation of the proposed project. The proposed project would comply with federal, State, and local statutes and regulations related to solid waste. This impact would be less than significant.

[29] CalRecycle. 2019. SWIS Facility/Site Details, Newby Island Sanitary Landfill (43-AN-0003). Website: www2.calrecycle.ca.gov/SolidWaste/Site/Details/3388 (accessed August 20, 2020).

3.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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 risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
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?	☐	☐	☐	☒

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan? ***(No Impact)***

The project site is not located within any State responsibility areas (SRA) for fire service,[30] and is not within a very high fire hazard severity zone.[31] In addition, as noted in Section 3.9.f, the proposed project would not impair the implementation of, or physically interfere with, and adopted emergency response plan and no impact would occur.

b. Would the project, 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? ***(No Impact)***

Refer to Section 3.20.a. Additionally, as noted in Section 1.0, Project Information, the project site is generally level, and is bound by existing development to the north, east and south and by undeveloped natural habitat/wetlands to the west. Therefore, the proposed project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire and no impact would occur.

[30] CAL FIRE. 2008, op. cit.
[31] CAL FIRE. 2008, op. cit.

c. Would the project 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 risk or that may result in temporary or ongoing impacts to the environment? ***(No Impact)***

Refer to Section 3.20.a. The proposed project is not located within an SRA for fire service and is not within a very high fire hazard severity zone. Therefore, the proposed project would not require the installation or maintenance of associated infrastructure and no impact would occur.

d. Would the project 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? ***(No Impact)***

Refer to Section 3.20.a and 3.20.b. The project site is generally level and is not located within an SRA for fire service or a very high fire hazard severity zone. Therefore, the proposed project would not expose people or structures to significant risks as a result of post-fire slope instability or drainage and runoff changes and no impact would occur.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially 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, substantially 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?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" 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.)	☐	☐	☒	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

a. Does the project have the potential to substantially 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, substantially 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 with Mitigation Incorporated)***

Implementation of the mitigation measures recommended in this Initial Study would ensure that the construction and operation of the proposed project would not substantially degrade the quality of the environment; reduce the habitat, population, or range of a plant or animal species; or eliminate important examples of California history or prehistory. As described in Section 3.4, Biological Resources, two federally and State-listed species occur in the salt marsh habitats adjacent to the project site and could be impacted during project demolition activities. Implementation of mitigation measures identified in Section 3.4, Biological Resources, would reduce impacts to these special status species to a less-than-significant level. As discussed in Section 3.5, Cultural Resources, in the event that unanticipated archeological/historical resources and/or human remains are identified in the project area during construction, mitigation measures would be implemented to reduce potential impacts to a less-than-significant level.

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" 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)? ***(Less-Than-Significant Impact)***

The CEQA Guidelines require a discussion of significant environmental impacts that would result from project-related actions in combination with "closely related past, present, and probably future projects: located in the immediate vicinity (CEQA Guidelines Section 15130[b][1][A]). Cumulative environmental impacts are those impacts that by themselves are not significant, but when considered with impacts occurring from other projects in the vicinity would result in a cumulative impact. Related projects considered to have the potential of creating cumulative impacts in association with the proposed project consist of projects that are reasonably foreseeable and that would be constructed or operated during the life of the proposed project.

The proposed project would be located within the Mayhews Landing Unit of the Refuge, which is operated by the USFWS. The Refuge is managed to preserve and enhance wildlife habitat; protect migratory birds and threatened and endangered species; and provide opportunities for wildlife-oriented recreation and nature study for the surrounding communities. As described in this Initial Study checklist, impacts associated with the proposed project would be temporary, construction-related and would be reduced to less than significant with implementation of the mitigation measures contained herein. No other construction projects are anticipated concurrent with and in proximity to the proposed project, such that cumulative construction-related impacts would occur. Therefore, the proposed project would not make a considerable contribution towards a cumulative impact related to construction impacts. The proposed project would demolish and seal two existing irrigation wells to prevent saltwater intrusion into the local aquifer. Following demolition, no activity would occur at the project site. The proposed project would not result in individual operation period impacts or make a considerable contribution to permanent operation-period impacts of other projects in the vicinity or the region.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ***(Less Than Significant with Mitigation Incorporated)***

As described in this Initial Study checklist, any potential environmental impacts from the project would be reduced to less than significant with the implementation of the recommended mitigation measures. With implementation of measures both incorporated into the project design and recommended as mitigations to reduce the impacts associated with air quality, biological resources, cultural resources, and noise the project would not result in substantial adverse effects on human beings.

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APPENDIX A

AIR QUALITY MODELING RESULTS

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Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Old Jarvis Irrigation Well Destruction Project (Job 21246)

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	1.58	10.54	15.11	4.12	0.62	3.50	1.29	0.56	0.73	0.03	3,173.28	0.93	0.06	3,213.02
Grading/Excavation	2.34	16.08	23.22	4.43	0.93	3.50	1.54	0.81	0.73	0.05	5,157.38	1.43	0.08	5,218.03
Drainage/Utilities/Sub-Grade	0.60	6.09	6.09	3.80	0.30	3.50	0.97	0.24	0.73	0.02	1,807.32	0.40	0.05	1,832.08
Paving	0.29	3.78	2.56	0.16	0.16	0.00	0.12	0.12	0.00	0.01	866.17	0.14	0.04	880.90
Maximum (pounds/day)	2.34	16.08	23.22	4.43	0.93	3.50	1.54	0.81	0.73	0.05	5,157.38	1.43	0.08	5,218.03
Total (tons/construction project)	0.01	0.06	0.07	0.02	0.00	0.02	0.01	0.00	0.00	0.00	17.29	0.00	0.00	17.50

Notes:

Project Start Year ->	2020
Project Length (months) ->	1
Total Project Area (acres) ->	0
Maximum Area Disturbed/Day (acres) ->	0
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 -> Old Jarvis Irrigation Well Destruction Project (Job 21246)

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	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	0.00	0.00	1.60
Grading/Excavation	0.01	0.04	0.05	0.01	0.00	0.01	0.00	0.00	0.00	0.00	11.35	0.00	0.00	10.41
Drainage/Utilities/Sub-Grade	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.48	0.00	0.00	3.20
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.66
Maximum (tons/phase)	0.01	0.04	0.05	0.01	0.00	0.01	0.00	0.00	0.00	0.00	11.35	0.00	0.00	10.41
Total (tons/construction project)	0.01	0.06	0.07	0.02	0.00	0.02	0.01	0.00	0.00	0.00	17.29	0.00	0.00	15.88

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.