PLANNING AND BUILDING DEPARTMENT

PLANNING DIVISION

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NOTICE OF INTENT TO ADOPT A
MITIGATED NEGATIVE DECLARATION

NOTICE IS HEREBY GIVEN that the County of El Dorado, as lead agency, has prepared a Mitigated Negative Declaration (MND) for the below referenced Project. The Draft MND analyzes the potential environmental effects associated with the proposed Project in accordance with the California Environmental Quality Act (CEQA). This Notice of Intent (NOI) is to provide responsible agencies and other interested parties with notice of the availability of the Draft MND and solicit comments and concerns regarding the environmental issues associated with the proposed Project.

LEAD AGENCY: County of El Dorado, 2850 Fairlane Court, Placerville, CA 95667

CONTACT: County Planner: Anna Leanza, 530-621-5149

PROJECT: GOV23-0001/El Dorado County Middle-Mile Fiber Optic Project

PROJECT LOCATION: The project will take place entirely within El Dorado County public right-of-way (ROW), consisting of 16.66 linear miles, located within the unincorporated communities of Cool, Garden Valley, and Georgetown along the easterly edge of State Route 49/Coloma Road and the northerly edge of State Route 193, in the northwestern portion of El Dorado County, California, Supervisorial District 4.

PROJECT DESCRIPTION: The El Dorado County Middle-Mile Fiber Optic Project (proposed project) would install a network of underground fiber optic cables aligned in the existing public right-of-way (ROW) within three project areas of Cool, Garden Valley, and Georgetown. The fiber optic routes would pass a variety of commercial and industrial parcels, residential areas, and public and private facilities; the proposed fiber optic routes are shown on Figure 2. The project does not include last-mile connections to residential, commercial, and industrial parcels; however, the project does include the construction of handholes, vaults, and splice points along the route so that future users can connect to the network after the project is completed. The project would install fiber optic cables along major roads and highways for the fiber optic routes, using existing public ROW. No ROW acquisition would be required under the project and staging areas would be within public ROW or previously developed public property (such as corporation yards, parking lots, etc.). The fiber optic cables would be installed using directional boring and/or open trenching. Typical depth would be 18 inches below surface, or lower if needed to avoid other utilities. Trenches would be a minimum of 18 inches deep, and approximately 12 inches wide.

PUBLIC REVIEW PERIOD: The public review period for the Draft ND set forth in CEQA for this project is **30** days, beginning **January 12, 2023, and ending February 10, 2023**. Any written comments must be received within the public review period. Copies of the Draft ND for this project may be reviewed and/or obtained in the County of El Dorado Planning and Building Department, 2850 Fairlane Court, Placerville, CA 95667, during normal business hours or online at https://edc-trk.aspgov.com/etrakit/. In order to view attachments, please login or create an E-Trakit account and search the project name or application file number in the search box.

Please direct your comments to: County of El Dorado, Planning and Building Department, County Planner: Anna Leanza, 2850 Fairlane Court, Placerville, CA 95667 or EMAIL: planning@edcgov.us

PUBLIC HEARING: This Staff Level Design Review Permit is subject to a Planning Director approval and no public hearing is required.

COUNTY OF EL DORADO
PLANNING AND BUILDING DEPARTMENT
KAREN L. GARNER, Director
January 11, 2023

DRAFT MITIGATED NEGATIVE DECLARATION

FILE: El Dorado County Middle-Mile Fiber Optic Project

PROJECT NAME: El Dorado County Middle-Mile Fiber Optic Project

NAME OF APPLICANT: El Dorado County

ASSESSOR'S PARCEL NO.: **SECTION:** **T:** **R:**

LOCATION: Various locations along SR 49, SR 193, 16.66 linear feet total

☐ **GENERAL PLAN AMENDMENT:** **FROM:** **TO:**

☐ **REZONING:** **FROM:** **TO:**

☐ **TENTATIVE PARCEL MAP** ☐
SUBDIVISION (NAME):

☐ **SPECIAL USE PERMIT TO ALLOW:**

☒ **OTHER:** Environmental review for installation of fiber optic cable in existing ROW.

REASONS THE PROJECT WILL NOT HAVE A SIGNIFICANT ENVIRONMENTAL IMPACT:

☐ **NO SIGNIFICANT ENVIRONMENTAL CONCERNS WERE IDENTIFIED DURING THE INITIAL STUDY.**

☒ **MITIGATION HAS BEEN IDENTIFIED WHICH WOULD REDUCE POTENTIALLY SIGNIFICANT IMPACTS.**

☐ **OTHER:**

In accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), State Guidelines, and El Dorado County Guidelines for the Implementation of CEQA, the County Environmental Agent analyzed the project and determined that the project will not have a significant impact on the environment. Based on this finding, the Planning Department hereby prepares this Mitigated Negative Declaration. A period of thirty (30) days from the date of filing this mitigated negative declaration will be provided to enable public review of the project specifications and this document prior to action on the project by COUNTY OF EL DORADO. A copy of the project specifications is on file at the County of El Dorado Planning Services, 2850 Fairlane Court, Placerville, CA 95667.

This Mitigated Negative Declaration was adopted by the _____on _____.

_____
Executive Secretary

EL DORADO COUNTY PLANNING SERVICES
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

INITIAL STUDY
ENVIRONMENTAL CHECKLIST

Project Title: El Dorado County Middle-Mile Fiber Optic Project

Lead Agency Name and Address: El Dorado County, 2850 Fairlane Court, Placerville, California 95667

Contact Person: Kyle Zimbelman, Economic and Business Relations Manager	**Phone Number:** (530) 621-5935

Project Proponent: County of El Dorado Planning and Building Department and Department of Finance; 2850 Fairlane Court, Placerville, California 95667

Project Location: The project is located in the unincorporated communities of Cool, Garden Valley, and Georgetown which are located east of State Route 49/Coloma road and north of State Route 193 in the northwestern portion of El Dorado County, California (see **Figure 1**).

Assessor's Parcel Number: Public Right of Way **Acres:** n/a (16.66 linear miles)

Sections: USGS Auburn and Greenwood:7.5-minute Quadrangle, Sec. 7, 8, 17, and 18 T:12N R:9E

General Plan Designation: Various throughout project site (see **Figure 4**)

Zoning: Various throughout project site

Description of Project: The El Dorado County Middle-Mile Fiber Optic Project (proposed project) would install a network of underground fiber optic cables aligned in the existing public right of way (ROW) within three project areas of Cool, Garden Valley, and Georgetown. The fiber optic routes would pass a variety of commercial and industrial parcels, residential areas, and public and private facilities; the proposed fiber optic routes are shown on Figure 2. The project does not include last-mile connections to residential, commercial, and industrial parcels; however, the project does include the construction of handholes, vaults, and splice points along the route so that future users connect to the network after the project is completed. The project would install cables within major roads and highways for the fiber optic routes, using existing public ROW. No ROW acquisition would be required under the project and staging areas would be within public ROW or previously developed public property (such as corporation yards, parking lots, etc.). The fiber optic cables would be installed using directional boring and/or open trenching. Typical depth would be 18 inches below surface, or lower if needed to avoid other utilities. Trenches would be a minimum of 18 inches deep, and approximately 12 inches wide.

Surrounding Land Uses and Setting: The communities of Cool, Garden Valley, and Georgetown would be served by the proposed project. The Cool project area contains properties with General Plan Land Use designations of Commercial, Multi-Family Residential, Medium Density Residential, High Density Residential, and Open Space; the Garden Valley project area contains properties with General Plan Land Use designations of Commercial and Medium Density Residential; the Georgetown project area contains properties with General Plan Land Use designations of Commercial, Medium Density Residential, High Density Residential, and Public Facilities.

Environmental Setting: The project areas consist of gently sloping valleys and hillsides; elevations along the project range from approximately 1,400 to 1,700 feet above mean sea level (msl), for a difference of about 300± feet across the three project areas. The project areas are primarily characterized by urban and rural residential development within oak woodland habitat. Where present within the project areas, vegetation consists of non-native annual grasses and forbs. Multiple aquatic or riparian resources are present within the project areas, including ephemeral and intermittent drainages, ditches, and canals with overhanging willow thickets; aquatic resources in the project vicinity are mapped on Figure 3. Storm water flow from roadways would be captured in roadside ditches or existing storm drain systems.

Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement)

1. U.S. Economic Development Administration – infrastructure grant funding

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 on the following pages.

	Aesthetics		Agriculture and Forestry Resources		Air Quality
X	Biological Resources	**X**	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/Traffic	**X**	Tribal Cultural Resources
	Utilities / Service Systems		Wildfire		

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 in 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 EIR or NEGATIVE DECLARATION, pursuant to applicable standards; and b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or Mitigation Measures that are imposed upon the proposed project, nothing further is required.

Signature: _____ Date: 1/3/2023

Printed Name: Anna Leanza For: El Dorado County

Signature: _____ Date: 1/3/2023

Printed Name: Kyle Zimbelman For: El Dorado County

PROJECT DESCRIPTION

Introduction

This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts resulting from the proposed project. The project would allow construction of a fiber optic cable network approximately 16.66-miles in length within El Dorado County.

Project Description

The proposed project would install a network of underground fiber optic cables aligned in the existing public ROW within three project areas of Cool, Garden Valley, and Georgetown. The proposed fiber optic routes are shown on **Figure 2**. The project would provide "middle mile" broadband infrastructure, connecting local service providers to internet backbone networks. The fiber optic routes are selected to be in proximity to commercial and industrial properties, residential areas, and public and private facilities. The project does not include last-mile connections to residential, commercial, and industrial parcels; however, the project does include the construction of handholes, vaults, and splice points along the route so that future users can connect to the network once the project is completed.

No ROW acquisition would be required, and staging areas would be within public ROW or previously developed public property (such as corporation yards, parking lots, etc.).

The fiber optic cables would be installed using directional boring and/or open trenching, depending on subsurface conditions and utility conflicts. Typical bore depth would be 18 inches below surface, or lower if needed to avoid other utilities or waterways. Directional boring can extend 1000-2000 feet between boring locations. To the extent possible, the entry pits for the directional boring equipment would also serve as the location of the service vaults. The entry pits are approximately 5x5x5 feet in size. If open trenching is used, trench width would typically be 12 inches. Microtrenching, if used, may allow for narrow trenches (4 inches or less). Conduit would be placed at 18-inch depth. Depending on soil conditions, some over excavation and bedding material may be required (typically 6 to 12 inches).

Construction is estimated to occur from January through June 2024. Work would occur within public ROW, and within the road shoulder, outside of travel lanes, wherever possible. In some instances, one travel lane may be closed to allow construction. A County-approved traffic control plan will be required for lane closures and to ensure access to private property is not impeded during construction.

Post-construction activity will be minimal. The cables do not require regular maintenance. Local service providers will connect to the network at the provided locations (handholes and vaults).

Project Location

The project is located within three project areas that cover the unincorporated communities of Cool, Garden Valley, and Georgetown which are located east of State Route 49/Coloma road and north of State Route 193 in the northwestern portion of El Dorado County, California (see **Figure 1**). The proposed project construction and fiber optic routing would be entirely within existing public ROW along roads and highways within the County; construction staging would occur either within the public ROW or previously developed public property such corporation yards or parking lots; the fiber optic lines would be installed at a typical depth of ground disturbance for the project would be three feet or shallower. For purposes of analysis in this Initial Study, the project's area of potential direct disturbance includes the public ROW and a 10-foot buffer along each side of the ROW.

Elevations along the project areas range from approximately 1,400 to 1,700 feet above msl. The project areas are primarily characterized by urban and rural residential development within oak woodland habitat. Where present within the project areas, vegetation consists of non-native annual grasses and forbs. Multiple aquatic or riparian resources are present within the project areas, including ephemeral and intermittent drainages, ditches, and canals with overhanging willow thickets.

Project Characteristics

1. Transportation/Circulation

Primary Project Roadways

The following roadways serve the three project areas and surrounding roadway networks; these roadways would be part of the proposed fiber optic cable routing under the project.

State Route 49 (SR 49) serves north-south traffic throughout the Sierra Nevada foothills. In and near El Dorado County, State Route 49 runs from Plymouth in Amador County through Diamond Springs, Placerville, Coloma, Pilot Hill, and Cool to Auburn in Placer County. In the vicinity of the project site, SR 49 is a 2-lane facility with no frontage improvements.

State Route 193 (SR 193) runs easterly from SR 49 in Cool to an intersection on SR 49 north of Placerville. In the vicinity of the project site, SR 193 is a 2-lane facility with no frontage improvements, although a separated bike path exists along the north side of the road.

American River Trail (Road) is a 2-lane gated privately maintained road in Cool which connects rural residences to SR 193. The road, which meanders, but generally is directed from southwest to the northeast, has no frontage improvements but does include bike paths on both sides of the road.

Main Street serves as the primary commercial corridor for the community of Georgetown. The Road connects rural residences to Georgetown's commercial and retail area. The road is 2-lanes wide and has no frontage improvements and limited sections with shoulders.

Marshall Road is a 2-lane public road in Garden Valley which runs from southwest to northeast and connects rural residences to Garden Valley's commercial and retail area and the community of Georgetown. The road has no frontage improvements and limited sections with shoulders.

2. Utilities and Infrastructure

The project operation would not require utilities such as water, wastewater, electricity, or gas. Project construction would require some water for cleaning equipment which would be supplied by truck. During construction, the project would utilize temporary construction portable toilets which would be regularly serviced. As described above, the project does not involve the dedication or expansion of new public ROW. Storm water flow from roadways would be captured in roadside ditches or existing storm drain systems.

3. Construction Considerations

The project would be constructed entirely within previously disturbed roadways within the project areas. Tree removal is not anticipated. No major grading activities are proposed .

Project Schedule and Approvals

This Initial Study and proposed Mitigated Negative Declaration is being circulated for public and agency review for a 30-day period. Written comments on the Initial Study should be submitted to the project planner indicated in the Summary section, above. Following the close of the written comment period, the Initial Study and proposed Mitigated Negative Declaration will be considered by the Lead Agency, El Dorado County, in a public meeting and will be adopted if it is determined to be in compliance with CEQA. The project will include federal funding. The County will approve the final design, receive bids construction, and approve the construction contract.

Project construction is assumed, for purposes of this analysis, to require up to 18 months.

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. If the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is a fair argument that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of Mitigation Measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the Mitigation Measures, and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and

    b. the mitigation measure identified, if any, to reduce the impact to less than significant.

ENVIRONMENTAL IMPACTS

I. **AESTHETICS.** *Would the project:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?				**X**
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				**X**
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 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?				**X**
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				**X**

Regulatory Setting:

Federal Laws, Regulations, and Policies

No federal regulations are applicable to aesthetics in relation to the proposed project.

State Laws, Regulations, and Policies

In 1963, the California State Legislature established the California Scenic Highway Program, a provision of the Streets and Highways Code, Sections 260 through 263, to preserve and enhance the natural beauty of California (Caltrans 2022). The state highway system includes designated scenic highways and those that are eligible for designation as scenic highways.

Several highways in El Dorado County (EDC) have been designated by the California Department of Transportation (Caltrans) as scenic highways or are eligible for such designation. These include U.S. 50 from the eastern limits of the Government Center interchange (Placerville Drive/Forni Road) in Placerville to South Lake Tahoe, all of SR 89 within the county, those portions of SR 88 along the southern border of the county, and a segment of SR 49 that spans from the communities of Cool to Nashville, north to south.

SR 49, which is a part of the proposed project fiber optic cable routing, is the only eligible scenic highway within the vicinity of the project area. However, the segment of SR 49 that the project aligns with is not officially designated as a scenic highway by Caltrans (Caltrans 2022). Therefore, there are no officially designated state highways in the vicinity of the project site.

Local Laws, Regulations, and Policies

The County has several standards and ordinances that address issues relating to visual resources. Many of these can be found in the County Zoning Ordinance (Title 130 of the County Code). The Zoning Ordinance consists of descriptions of the zoning districts, including identification of uses allowed by right or requiring a special-use permit and specific development standards that apply in particular districts based on parcel size and land use density. These

development standards often involve limits on the allowable size of structures, required setbacks, and design guidelines. Included are requirements for setbacks and allowable exceptions, the location of public utility distribution and transmission lines, architectural supervision of structures facing a state highway, height limitations on structures and fences, outdoor lighting, and wireless communication facilities.

Visual resources are classified as 1) scenic resources or 2) scenic views. Scenic resources include specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually middle ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor.

A list of the county's scenic views and resources is presented in Table 5.3-1 of the El Dorado County General Plan EIR (p. 5.3-3) (El Dorado County 2003). This list includes areas along highways where viewers can see large water bodies (e.g., Lake Tahoe and Folsom Reservoir), river canyons, rolling hills, forests, or historic structures or districts that are reminiscent of El Dorado County's heritage.

Rivers in El Dorado County include the American, Cosumnes, Rubicon, and Upper Truckee rivers. A large portion of El Dorado County is under the jurisdiction of the United States Forest Service (USFS), which under the Wild and Scenic Rivers Act may designate rivers or river sections to be Wild and Scenic Rivers. To date, no river sections in El Dorado County have been nominated for or granted Wild and Scenic River status.

Discussion: A substantial adverse effect to Visual Resources would result in the introduction of physical features that are not characteristic of the surrounding development, substantially change the natural landscape, or obstruct an identified public scenic vista.

a. **Scenic Vista:** A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Table 5.3-1 of the El Dorado County General Plan presents public scenic viewpoints in the county; northbound and southbound SR 49 is included in this table, which is part of the proposed project fiber optic cable alignment (El Dorado County 2003). While the proposed project proposes construction within the SR 49 ROW, all construction and project elements would be underground; the project involves only the installation of fiber optic cables at a depth of approximately 18 inches below grade that would be covered after installation. Therefore, the project would not introduce any noticeable physical features and would not result in a substantial adverse effect to a scenic vista. There would be **no impact** to scenic vistas.

b. **Scenic Highway:** Highway 49 throughout El Dorado County is classified as an "Eligible State Scenic Highway – Not Officially Designated." The nearest scenic highway designation is on U.S. 50 between and within the City of Placerville and the Tahoe Basin. This designation occurs approximately 8 miles south of the nearest point of the project area. The project area would not be visible from the scenic highway; therefore, the project would have **no impact** to aesthetic resources within the proximity of a state scenic highway.

c. **Visual Character:** The proposed project would result in the installation of fiber optic cables underground within the public ROW at a depth of approximately 18 inches in the communities of Cool, Garden Valley, and Georgetown. The project design does not include any aboveground elements, such as lighting or fencing, and would not be visually noticeable. Therefore, construction and operation of the project would not substantially degrade the character of the site or its surroundings and there would be **no impact**.

d. **Light and Glare**: The proposed project does not propose any elements that would generate light or glare. The proposed fiber optic cables would be installed underground, and the project would not involve any aboveground components such as lighting or fencing. Night time construction is not being considered unless special circumstances would require it. Therefore, the project would have **no impact** regarding the creation of a new source of light or glare and would not adversely affect day or nighttime views in the project areas.

FINDING: The proposed project does not involve visually noticeable elements and therefore no aesthetic impacts would result from the project.

II. AGRICULTURE AND FOREST 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 Department 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 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 forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Locally Important Farmland (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				**X**
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				**X**
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))?				**X**
d. Result in the loss of forest land or conversion of forest land to non-forest use?				**X**
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?				**X**

Regulatory Setting:

Federal Laws, Regulations, and Policies

No federal regulations are applicable to agricultural and forestry resources in relation to the proposed project.

State Laws, Regulations, and Policies

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP), administered by the California Department of Conservation (DOC), produces maps and statistical data for use in analyzing impacts on California's agricultural resources (DOC 2022). FMMP rates and classifies agricultural land according to soil quality, irrigation status, and other criteria. Important Farmland categories are as follows:

> ***Prime Farmland:*** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. These lands have the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for irrigated agricultural production at some time during the 4 years before the FMMP's mapping date.

Farmland of Statewide Importance: Farmland similar to Prime Farmland, but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Farmland of Statewide Importance must have been used for irrigated agricultural production at some time during the 4 years before the FMMP's mapping date.

Unique Farmland: Farmland of lesser quality soils used for the production of the state's leading agricultural crops. These lands are usually irrigated but might include non-irrigated orchards or vineyards, as found in some climatic zones. Unique Farmland must have been cropped at some time during the 4 years before the FMMP's mapping date.

Farmland of Local Importance: Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965 (commonly referred to as the Williamson Act) allows local governments to enter into contracts with private landowners for the purpose of preventing conversion of agricultural land to non-agricultural uses. In exchange for restricting their property to agricultural or related open space use, landowners who enroll in Williamson Act contracts receive property tax assessments that are substantially lower than the market rate.

Discussion: A substantial adverse effect to Agricultural Resources would occur if:

- There is a conversion of choice agricultural land to nonagricultural use, or impairment of the agricultural productivity of agricultural land;
- The amount of agricultural land in the County is substantially reduced; or
- Agricultural uses are subjected to impacts from adjacent incompatible land uses.

a. **Farmland Mapping and Monitoring Program:**
The FMMP Important Farmland map classifies the majority of the project areas within Cool, Garden Valley, and Georgetown as Urban and Built-up Land, Other Land, or Grazing Land (DOC 2018). The project would be constructed entirely within previously disturbed public ROW underneath roadways. As such, the project would not result in the conversion of any farmland to non-agricultural use and would have **no impact**.

b. **Agricultural Uses:** No part of the project site is located within a property subject to a Williamson Act Contract. Moreover, the project would not conflict with existing zoning for agricultural use. There would be **no impact**.

c.-d. **Loss of Forest land or Conversion of Forest land:** No part of the project site is designated as Timberland Preserve Zone (TPZ) or other forest land according to the El Dorado County General Plan and Zoning Ordinance. The project site does not support forested areas. No conversion of forest or timber lands would occur as a result of the project. There would be **no impact**.

e. **Conversion of Prime Farmland or Forest Land:** The project would not result in conversion of existing lands designated by the El Dorado County General Plan and/or zoned for agricultural uses, nor is the site designated TPZ or other forestland according to the El Dorado County General Plan and Zoning Ordinance. The project is proposed entirely within existing public ROW and does not propose development outside of the existing public ROW. There would be **no impact**.

FINDING: The project site does not contain agricultural resources or forest lands and no impacts would be anticipated to result from the project.

III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?			**X**	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			**X**	
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			**X**	
d. Expose sensitive receptors to substantial pollutant concentrations?			**X**	
e. Create objectionable odors affecting a substantial number of people?			**X**	

Regulatory Setting:

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. The Clean Air Act is implemented by the U.S. Environmental Protection Agency (USEPA) and sets ambient air limits, the National Ambient Air Quality Standards (NAAQS), for the following criteria air pollutants: particulate matter of aerodynamic radius of 10 micrometers or less (PM10), particulate matter of aerodynamic radius of 2.5 micrometers or less (PM2.5), carbon monoxide (CO), nitrogen dioxide (NO2), ground-level ozone (O3), sulfur dioxide (SO2), and lead. Of these criteria pollutants, particulate matter and ground-level O3 pose the greatest threats to human health. The California Air Resources Board (CARB) sets standards for criteria pollutants in California that are more stringent than the NAAQS and include the following additional contaminants: visibility-reducing particles, hydrogen sulfide (H2S), sulfates, and vinyl chloride.

USEPA and CARB regulate various stationary sources, area sources, and mobile sources. USEPA has regulations involving performance standards for specific sources that may release toxic air contaminants (TACs), known as hazardous air pollutants (HAPs) at the federal level. In addition, USEPA has regulations involving emission criteria for off-road sources such as emergency generators, construction equipment, and vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB also establishes passenger vehicle fuel specifications.

The proposed project is located within the Mountain Counties Air Basin (MCAB), which is comprised of seven air districts: the Northern Sierra Air Quality Management District (AQMD), Placer County Air Pollution Control District (APCD), Amador County APCD, Calaveras County APCD, the Tuolumne County APCD, the Mariposa County APCD, and a portion of the El Dorado County AQMD (EDCAQMD), which consists of the western portion of El Dorado County. The EDCAQMD manages air quality for attainment and permitting purposes within the west slope portion of El Dorado County.

Air quality in the project area is regulated by the EDCAQMD. CARB and local air districts are responsible for overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required to comply with CEQA. The AQMD regulates air quality through the federal and state Clean Air Acts, district rules, and its permit authority.

The USEPA and State also designate regions as "attainment" (within standards) or "nonattainment" (exceeds standards) based on the ambient air quality. El Dorado County is in nonattainment status for both federal and state O3 standards and for the state PM10 standard, and is in attainment or unclassified status for other pollutants (CARB 2019).

The EDCAQMD has adopted thresholds to address the significance of air quality impacts resulting from a project in the Guide to Air Quality Assessment (EDCAQMD 2002). These mass daily thresholds are for reactive organic gases (ROG) (also termed volatile organic compounds or VOCs) and oxides of nitrogen (NOx), which are O3 precursors. According to the EDCAQMD, if ROG and NOx are less than significant during construction and operations, then exhaust emissions of other pollutants (such as CO, NO2, PM10, and SO2) from the operation of equipment and other vehicles would also be considered less than significant.

Table 3-1

EDCAQMD Air Quality Significance Thresholds

Pollutant	Construction	Operation
Criteria Pollutants Mass Daily Thresholds (pounds per day)		
ROG	82	82
NO_x	82	82

Source: EDCAQMD 2002.
Notes: EDCAQMD = El Dorado County Air Quality Management District; ROG = Reactive Organic Gases; NOx = oxides of nitrogen.

For qualitative screening, ROG and NO_x Emissions may be assumed to not be significant during construction if:

- The project encompasses 12 acres or less of ground that is being worked at one time during construction and at least one of the recommended mitigation measures related to such pollutants is incorporated into the construction of the project; or
- The project proponent commits to pay mitigation fees in accordance with the provisions of an established mitigation fee program in the district (or such program in another air pollution control district that is acceptable to EDCAQMD); or
- Daily average fuel use is less than 337 gallons per day for equipment from 1995 or earlier, or 402 gallons per day for equipment from 1996 or later

For fugitive dust, if dust suppression measures will prevent visible emissions beyond the boundaries of the project, further calculations to determine particulate emissions are not necessary. For the other criteria pollutants, including CO, PM_{10}, SO_2, NO_2, sulfates, lead, and H_2S, a project is considered to have a significant impact on air quality if it will cause or contribute significantly to a violation of the applicable national or state ambient air quality standard(s).

Naturally occurring asbestos (NOA) is also a concern in El Dorado County because it is known to be present in certain soils and can pose a health risk if released into the air. The EDCAQMD has adopted an El Dorado County Naturally Occurring Asbestos Review Area Map that identifies those areas more likely to contain NOA (El Dorado County 2005).

The *Guide to Air Quality Assessment* also includes a Table (Table 5.2) listing project types with potentially significant emissions during operations.

The EDCAQMD has developed the *Guide to Air Quality Assessment* to evaluate project specific impacts and help determine if air quality mitigation measures are needed, or if potentially significant impacts could result. A substantial adverse effect on air quality would occur if:

- Emissions of ROG and NO_x will result in construction or operation emissions greater than 82 pounds per day;
- Emissions of PM_{10}, CO, SO_2 and NO_2, as a result of construction or operation emissions, will result in ambient pollutant concentrations in excess of the applicable National or State Ambient Air Quality Standard (AAQS). Special standards for O_3, CO, and visibility apply in the Lake Tahoe Air Basin portion of the County; or
- Emissions of TACs cause cancer risk greater than 1 in 1 million (10 in 1 million if best available control technology for toxics is used) or a non-cancer Hazard Index greater than 1. In addition, the project must demonstrate compliance with all applicable EDCAQMD, State and USEPA regulations governing toxic and hazardous emissions.

a. **Air Quality Plan:** As mentioned previously, the MCAB is currently non-attainment for O_3 (state and federal ambient standards) and particulate matter (PM_{10}) (state ambient standard). While an air quality plan exists for O_3, none currently exists for particulate matter. The Sacramento Regional 2008 NAAQS (National Ambient Air Quality Standards) 8-Hour Ozone Attainment Plan and Reasonable Further Progress Plan (Ozone Attainment Plan) was developed for application within the Sacramento region, including the MCAB portion of El Dorado County (EDCAQMD *et al*. 2017). If a project can demonstrate consistency with the Ozone Attainment Plan for ROG and NO_x emissions, it would be determined that it would not have a significant cumulative impact with respect to O_3.

Projects within the MCAB portion of the County must demonstrate Ozone Attainment Plan consistency with the following four indicators:

1. The project does not require a change in the existing land use designation (e.g., a general plan amendment or rezone), or projected emissions of ROG and NOx from a project are equal to or less than the emissions anticipated for the site if development under the existing land use designation;
2. The project does not exceed the "project alone" significance criteria;
3. The lead agency for the project requires the project to implement any applicable emission reduction measures contained in and/or derived from the Ozone Attainment Plan; and
4. The project complies with all applicable district rules and regulations.

The first way to assess project compliance with the Ozone Attainment Plan is to ensure that the population density and land use are consistent with the growth assumptions used in the plans for the MCAB. The project includes no uses that would generate a long-term increase in population and does not require a change in land use designations applied to the project site. Therefore, the project would be consistent with the regional growth forecasts and would not conflict with or exceed the assumptions of the Ozone Attainment Plan.

The second criterion assesses a project's contribution to existing air quality violations. Criteria air pollutant emissions associated with construction and operation of the project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2. As discussed in b) below, it was determined that the project would not contribute to an air quality violation because construction and operational emissions would not exceed the EDCAQMD thresholds of significance for ROG or NO_x emissions.

The third criterion is compliance with control measures in the Ozone Attainment Plan. Most of the control strategies in the Ozone Attainment Plan include measures in the categories of transportation and stationary sources. The non-regulatory control measures include; on-road and off-road mobile incentive programs, and an emerging/voluntary urban forest development program. These are followed by the regulatory control measures, which include; indirect source rules and a variety of stationary and area-wide source control measures. CARB's strategy for reducing mobile source emissions includes the following: new engine standards, reducing emissions from in-use fleet, requiring the use of cleaner fuels, supporting the use of alternative fuels, and pursuing long-term advanced technology measures. The project would result in no conflict with CARB's strategy for controlling mobile source emissions. In addition, the project would be required to adhere to EDCAQMD Rule 215 – Architectural Coatings, which restricts the VOC content of coatings.

The final criterion is compliance with the EDCAQMD rules and regulations. The EDCAQMD has adopted rules designed specifically to address a variety of air quality impacts through measures that construction and operational related air quality emissions. The project would be required by law to comply with all applicable rules and regulations. Rules designed to control air pollutant emissions, and which may be applicable to the project include:

- Rule 210 related to the discharge of air contaminants
- Rule 215 related to application of architectural coatings.
- Rule 223 related to fugitive dust
- Rule 223-1 related to construction related fugitive dust
- Rule 223-2 related to asbestos
- Rule 224 relates to application of cutback or emulsified asphalt for paving.

Notably, pursuant to Rule 223-1, any activities associated with future plans for grading and construction would require a Fugitive Dust Control Plan (FDCP) for grading and construction activities. Such a plan would address grading measures and operation of equipment to minimize and reduce the level of defined particulate matter exposure and/or emissions to a less than significant level.

In summary, the project would not conflict with the growth assumptions for the region, does not exceed the EDCAQMD significance thresholds, would be consistent with all control measures of the Ozone Attainment Plan, and would comply with applicable EDCAQMD rules. Based on these considerations, the project would not conflict with or obstruct implementation of an applicable air quality plan. The impact would be **less than significant**.

b-c. **Air Quality Standards and Cumulative Impacts:** The following discussion evaluates the potential for the project's construction and operational emissions to result in a considerable contribution to the region's cumulative air quality impact.

Construction

Construction of the project would result in the addition of pollutants to the local air shed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be estimated, with a corresponding uncertainty in precise ambient air quality impacts. Fugitive dust (PM_{10} and $PM_{2.5}$) emissions would primarily result from earthwork activities. NO_x and CO emissions would primarily result from the use of construction equipment and motor vehicles.

Construction of the project is anticipated to occur over an 18 month period (January 2023 through June 2024). Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the County and CalEEMod generated default values. Complete detailed construction assumptions are included in Appendix A. Table 3-2 presents the estimated maximum unmitigated daily construction emissions generated during construction of the project.

Table 3-2. Maximum Daily Unmitigated Construction Emissions

Project Phase	ROG	NO_x
	Pounds per Day	
Grubbing/Land Clearing	2.63	19.29
Grading/Excavation	4.89	41.29
Drainage/Utilities/Sub-Grade	4.69	39.28
Paving	2.87	21.25
Maximum Daily Emissions	4.89	41.29
EDCAQMD Threshold	*82*	*82*
Threshold exceeded?	No	No

Source: See Appendix A for detailed results.
Notes: EDCAQMD = El Dorado County Air Quality Management District; ROG = reactive organic gases; NO_x = oxides of nitrogen
The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 3-2, ROG and NO_x emissions would not exceed the EDCAQMD significance thresholds; therefore, the project would have a less than significant impact. According to the EDCAQMD, if ROG and NO_x are less than significant during construction, then exhaust emissions of other pollutants from the operation of equipment and other vehicles would also be considered less than significant. Further, existing regulations implemented at issuance of building and grading permits would ensure that any construction related fugitive dust emissions would be reduced to acceptable levels. Therefore, the project would result in a **less than significant** impact in regard to criteria air pollutant emissions generated during construction.

d. **Sensitive Receptors:** The CEQA Guidelines (14 CCR 15000) identify sensitive receptors as facilities that house or attract children, the elderly, people with illnesses, or others that are especially sensitive to the effects of air pollutants. Hospitals, schools, and convalescent hospitals are examples of sensitive receptors. The discussion below reviews the significance of emissions within the context of potential impacts to sensitive receptors. While the project does pass through residential areas, construction would occur within the public ROW, and residences would be set back from the road. In addition, overall emission levels are well below the acceptable threshold, as shown in Table 3-2.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The EDCAQMD recommends an incremental cancer risk threshold of 10 in 1 million (with implementation of best available control technology for toxics). "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard California Office of Environmental Health Hazard Assessment (OEHHA) risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. EDCAQMD recommends a Hazard Index of 1 or more for acute (short-term) and chronic (long-term) non-carcinogenic effects. The TAC that would potentially be emitted during construction activities associated with development of the proposed project would be diesel particulate matter (DPM).

The construction method – either directional boring or narrow trenching – would minimize the need for heavy off-road equipment, the primary source of TACs during project construction.

Project operations would not result in the emission of TACs.

Health Effects of Criteria Air Pollutants

ROG and NO_x are precursors to O_3, for which the MCAB is designated as nonattainment with respect to the NAAQS and California Ambient Air Quality Standards (CAAQS). Thus, existing O_3 levels in the MCAB are at unhealthy levels during certain periods. The health effects associated with O_3 are generally associated with reduced lung function. Because the project involves construction or operational activities that would not result in ROG or NO_x emissions that would exceed the EDCAQMD thresholds, the project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO, PM_{10}, and other pollutants are evaluated for significance by comparison against the NAAQS and CAAQS. A project would be considered significant if it is projected to cause a violation of any NAAQS and/or CAAQS. The MCAB portion of El Dorado County is classified as attainment (or unclassified) for all NAAQS and CAAQS for CO, $PM_{2.5}$, NO_2, SO_2, sulfates, lead, and H_2S, and is classified as nonattainment for the state 24-hour PM_{10} standard.

Emissions of CO, PM_{10}, and other pollutants generated from operation of the project would be considered significant if:

1. The project's contribution by itself would cause a violation of the AAQS, or
2. The project's contribution plus the background level would result in a violation of the AAQS and either
    a. A sensitive receptor is located within a quarter-mile of the project, or
    b. The project's contribution exceeds 5% of the AAQS

The EDCAQMD considers lead, sulfates, and H_2S to be less than significant except from industrial sources that result in these pollutants being directly emitted. The project would not include these sources and thus any potential emissions of lead, sulfates, and H_2S would be less than significant.

The EDCAQMD considers projects that fall below the significance levels for ROG and NO_x emissions to also fall below significance thresholds for the other criteria air pollutants, including CO, NO_2, PM_{10}, and SO_2. As discussed in b) above, ROG and NO_x emission would be below the thresholds of significance during project construction and operations. Therefore, project emissions of other criteria air pollutants would also be less than significant.

Visibility impacts are controlled through state and federal regulatory programs that govern vehicle emissions and through mitigation required for O_3 precursors and particulate matter. Due to these regulatory controls, EDCAQMD assumes that visibility impacts from projects in the MCAB portion of the County are less than significant.

In summary, the proposed project would not make a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Therefore, impacts would be less than significant.

e. **Objectionable Odors:** Other emissions associated with the project are anticipated to be limited to odors, which is assessed herein. The occurrence and severity of potential odor impacts depend on numerous factors. The nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receiving location each contributes to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying, cause distress, and generate citizen complaints.

Common sources of odors include wastewater treatment plants, landfills, transfer stations, composting facilities, refineries, chemical plants, and food processing plants (EDCAQMD 2002). Project operations would not generate new odors or increase emissions of odors. During project construction, exhaust from equipment may produce discernible odors typical of most construction sites. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from the tailpipes of construction equipment. However, such odors would disperse rapidly from the project site and generally

occur at magnitudes that would not affect substantial numbers of people. Repaving asphalt concrete may also be a source of odor. Large areas of repaving are not proposed, as excavation (for the five-foot entry pits) would occur only every 1000 – 2000 feet. Accordingly, impacts associated with odors would be **less than significant**.

FINDING: The project would not affect the implementation of regional air quality regulations or management plans. The project would not be anticipated to cause substantial adverse effects to air quality, nor exceed established significance thresholds for air quality impacts.

IV. BIOLOGICAL RESOURCES. *Would the project:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
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 Wildlife or U.S. Fish and Wildlife Service?		**X**		
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?			**X**	
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		**X**		
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?			**X**	
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				**X**
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?				**X**

Regulatory Setting:

Federal Laws, Regulations, and Policies

Endangered Species Act

The Endangered Species Act (ESA) (16 U.S. Code [USC] Section 1531 *et seq.*; 50 Code of Federal Regulations [CFR] Parts 17 and 222) provides for conservation of species that are endangered or threatened throughout all or a substantial portion of their range, as well as protection of the habitats on which they depend. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. In general, USFWS manages terrestrial and freshwater species, whereas NMFS manages marine and anadromous species.

Section 9 of the ESA and its implementing regulations prohibit the "take" of any fish or wildlife species listed under the ESA as endangered or threatened, unless otherwise authorized by federal regulations. The ESA defines the term "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC Section 1532). Section 7 of the ESA (16 USC Section 1531 *et seq.*) outlines the

procedures for federal interagency cooperation to conserve federally listed species and designated critical habitats. Section 10(a)(1)(B) of the ESA provides a process by which nonfederal entities may obtain an incidental take permit from USFWS or NMFS for otherwise lawful activities that incidentally may result in "take" of endangered or threatened species, subject to specific conditions. A habitat conservation plan (HCP) must accompany an application for an incidental take permit.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC, Chapter 7, Subchapter II) protects migratory birds. Most actions that result in take, or the permanent or temporary possession of, a migratory bird constitute violations of the MBTA. The MBTA also prohibits destruction of occupied nests. USFWS is responsible for overseeing compliance with the MBTA.

Bald and Golden Eagle Protection Act

The federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), first enacted in 1940, prohibits "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The definition for "Disturb" includes injury to an eagle, a decrease in its productivity, or nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present.

Clean Water Act

Clean Water Act (CWA) section 404 regulates the discharge of dredged and fill materials into waters of the U.S., which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the aforementioned waters (33 CFR Section 328.3). Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial waterbodies such as swimming pools, vernal pools, and water-filled depressions (33 CFR Part 328). Areas meeting the regulatory definition of waters of the U.S. are subject to the jurisdiction of U.S. Army Corps of Engineers (USACE) under the provisions of CWA Section 404. Construction activities involving placement of fill into jurisdictional waters of the U.S. are regulated by USACE through permit requirements. No USACE permit is effective in the absence of state water quality certification pursuant to Section 401 of CWA.

Section 401 of the CWA requires an evaluation of water quality when a proposed activity requiring a federal license or permit could result in a discharge to waters of the U.S. In California, the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) issue water quality certifications. Each RWQCB is responsible for implementing Section 401 in compliance with the CWA and its water quality control plan (also known as a Basin Plan). Applicants for a federal license or permit to conduct activities that may result in the discharge to waters of the U.S. (including wetlands or vernal pools) must also obtain a Section 401 water quality certification to ensure that any such discharge will comply with the applicable provisions of the CWA.

State Laws, Regulations, and Policies

California Fish and Game Code

The California Fish and Game Code includes various statutes that protect biological resources, including the Native Plant Protection Act of 1977 (NPPA) and the California Endangered Species Act (CESA). The NPPA (California Fish and Game Code Section 1900-1913) authorizes the Fish and Game Commission to designate plants as endangered or rare and prohibits take of any such plants, except as authorized in limited circumstances.

CESA (California Fish and Game Code Section 2050–2098) prohibits state agencies from approving a project that would jeopardize the continued existence of a species listed under CESA as endangered or threatened. Section 2080 of the California Fish and Game Code prohibits the take of any species that is state listed as endangered or threatened, or designated as a candidate for such listing. California Department of Fish and Wildlife (CDFW) may issue an incidental take permit authorizing the take of listed and candidate species if that take is incidental to an otherwise lawful activity, subject to specified conditions.

California Fish and Game Code Section 3503, 3513, and 3800 protect native and migratory birds, including their active or inactive nests and eggs, from all forms of take. In addition, Section 3511, 4700, 5050, and 5515 identify species that are fully protected from all forms of take. Section 3511 lists fully protected birds, Section 5515 lists fully protected fish, Section 4700 lists fully protected mammals, and Section 5050 lists fully protected amphibians.

Streambed Alteration Agreement

Sections 1601 to 1606 of the California Fish and Game Code require that a Streambed Alteration Application be submitted to CDFW for any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake. As a general rule, this requirement applies to any work undertaken within the 100-year floodplain of a stream or river containing fish or wildlife resources.

California Native Plant Protection Act

The California Native Plant Protection Act (California Fish and Game Code Section 1900–1913) prohibits the taking, possessing, or sale of any plants with a state designation of rare, threatened, or endangered (as defined by CDFW). The California Native Plant Society (CNPS) maintains a list of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review.

Forest Practice Act

Logging on private and corporate land in California is regulated by the Z'Berg-Nejedly Forest Practices Act (FPA), which took effect January 1, 1974. The act established the Forest Practice Rules (FPRs) and a politically-appointed Board of Forestry to oversee their implementation. CAL FIRE works under the direction of the Board of Forestry and is the lead government agency responsible for approving logging plans and for enforcing the FPRs. A Timber Harvest Plan (THP) must be prepared by a Registered Professional Forester (RPF) for timber harvest on virtually all non-federal land. The FPA also established the requirement that all non-federal forests cut in the State be regenerated with at least three hundred stems per acre on high site lands, and one hundred fifty trees per acre on low site lands.

Local Laws, Regulations, and Policies

The County General Plan also include policies that contain specific, enforceable requirements and/or restrictions and corresponding performance standards that address potential impacts on special-status plant species or create opportunities for habitat improvement. The El Dorado County General Plan designates the Important Biological Corridor (IBC) (Exhibits 5.12-14, 5.12-5 and 5.12-7, El Dorado County, 2003). Lands located within the overlay district are subject to the following provisions, given that they do not interfere with agricultural practices:

- Increased minimum parcel size;
- Higher canopy-retention standards and/or different mitigation standards/thresholds for oak woodlands;
- Lower thresholds for grading permits;
- Higher wetlands/riparian retention standards and/or more stringent mitigation requirements for wetland/riparian habitat loss;
- Increased riparian corridor and wetland setbacks;
- Greater protection for rare plants (e.g., no disturbance at all or disturbance only as recommended by U.S. Fish and Wildlife Service/California Department of Fish and Wildlife);
- Standards for retention of contiguous areas/large expanses of other (non-oak or non-sensitive) plant communities;
- Building permits discretionary or some other type of "site review" to ensure that canopy is retained;
- More stringent standards for lot coverage, floor area ratio (FAR), and building height; and
- No hindrances to wildlife movement (e.g., no fences that would restrict wildlife movement).

Discussion: A substantial adverse effect on Biological Resources would occur if the implementation of the project would:

- Substantially reduce or diminish habitat for native fish, wildlife or plants;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a native plant or animal community;
- Reduce the number or restrict the range of a rare or endangered plant or animal;
- Substantially affect a rare or endangered species of animal or plant or the habitat of the species; or
- Interfere substantially with the movement of any resident or migratory fish or wildlife species.

Discussion of the project's impact to special-status plant species is based on the Pre-Construction Botanical Survey Results for the El Dorado County Fiber Optic Grant Project report prepared by Dudek in May, 2021 (attached as Appendix B of this Initial Study). Discussion of the project's impact to special-status wildlife species is based on database research, desktop evaluation, and an analysis of vegetation communities and land cover types within the project area identified during the April 14, 2021, special-status plant survey (refer to Appendix C of this Initial Study).

The project areas consist of gently sloping valleys and hillsides; elevations along the project range from approximately 1,400 to 2,700 feet above mean sea level (msl) in Cool, California and Georgetown, California, respectively. The project areas are primarily characterized by urban and rural residential development within oak woodland habitat (Cool and Garden Valley) and mixed conifer and oak woodland habitat (Georgetown). Where present within the project areas, vegetation primarily consists of non-native annual grasses and forbs along roadsides.

As shown on **Figure 3**, multiple aquatic or riparian resources are present within the project areas, including ephemeral and intermittent drainages, ditches, and canals with overhanging willow thickets. Empire Creek runs directly adjacent to project area in Garden Valley and is also present in the southern portion of the project area in Georgetown. A cement culvert crossing of the Georgetown Divide Ditch occurs in the northern portion of the project area in Georgetown. The project area of effect is located within existing roadways within the public ROW; the project's potential direct disturbance could temporarily extend an additional 10 feet on either side of the ROW for staging of construction equipment. These areas are mostly disturbed by the existing roadways with existing stream crossings.

a. **Special Status Species and Sensitive Natural Communities:** As noted in the Botanical Survey Results memo (Appendix B), potential special status plant species were identified through analysis of past records

and online databases. On April 14, 2021, a Dudek Biologist conducted a field survey of the project area for five special-status plant species that were reference populations according to population research: Jepson's onion, Stebbins' morning-glory, Red Hills soaproot, Layne's ragwort, and oval-leaved viburnum. During the field survey, Stebbins' morning-glory, Red Hills soaproot, Layne's ragwort were all observed at reference populations within the Bureau of Land Management's Pine Hill Preserve approximately 12 miles southwest of Garden Valley, and oval-leaved viburnum was observed at a reference population within the Auburn State Recreation Area. approximately 2 miles northwest of Cool.

A total of 54 species of native or naturalized plants, 30 native (56%) and 24 non-native (44%), were recorded during the survey. None of the target special-status plants, nor any other special-status species, were identified during the rare plant survey. Of the potential reference populations visited, four target species, Stebbins' morning-glory, Red Hills soaproot, Layne's ragwort, and oval-leaved viburnum, were identified. Based on a review of herbarium collections and the phenological status of the reference populations, the timing of the May survey coincided with the bloom season when target special-status plant species would be evident and identifiable in the survey area region.

The report concluded that although five special-status plant species have potential to occur in the project areas, none were observed during the 2021 survey and that no additional plant surveys are required for the project. Given no occurrences of special-status plant species within the project areas and recommendation of no additional plan surveys, **less-than-significant impacts** are anticipated, and no mitigation measures are proposed.

As noted above, potential special status wildlife species were identified through analysis of past records and online databases. Based on the database searches and available habitat within the project areas, three species of special-status wildlife were determined to have moderate to high potential to occur within or adjacent to the project areas (Appendix C): Foothill yellow-legged frog (*Rana boylii*), Townsend's big-eared bat (*Corynohinus townsendii*), and pallid bat (*Antrozous pallidus*). Additionally, trees and buildings adjacent to the project areas provide suitable nesting habitat for a variety of migratory bird species.

The foothill yellow-legged frog is highly associated with rocky streams and is rarely found far from suitable aquatic habitat (CDFW SOURCE).

Implementation of Mitigation Measures BIO-1 and BIO-2 will ensure that potential project impacts to special-status wildlife species is **less than significant with mitigation**.

Mitigation Measure BIO-1: Eventual development on the Project site would involve the use of heavy equipment adjacent to nesting bird habitat and potentially trimming of roadside vegetation, which have the potential to impact nesting birds protected by the federal MBTA and state FGC. Direct impacts from active tree removal or nest destruction, or indirect impacts from construction noise and vibration, to nesting birds would be considered a potentially significant impact. To avoid impacting active nests, Dudek recommends conducting tree or vegetation removal, if required, outside of the nesting season (September through February). If not feasible and construction will occur during the nesting season (February through August), Dudek recommends implementing the following measures to avoid or minimize impacts to nesting birds:

- A qualified biologist shall conduct a pre-construction survey for nesting birds no more than five days prior to vegetation trimming or removal or ground-disturbing activities conducted during the nesting season (generally February through August). The survey should cover the limits of construction and suitable nesting habitat within 500 feet of the Project site for raptors and 100 feet for other nesting birds, as feasible and accessible.
- If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance will typically range from 50 to 500 feet and should be determined based on factors such as the species of bird, topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests should be established in the field

with flagging, fencing, or other appropriate barriers and should be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.

- If vegetation removal activities are delayed, additional nest surveys should be conducted such that no more than 5 days elapse between the prior survey and active construction activities.
- If an active nest is identified in or adjacent to the construction limits after construction has started, work in the vicinity of the nest should be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.

Mitigation Measure BIO-2: If bats are roosting on the project site, direct impacts to individual bats could result from the removal of or modification to roosting sites, such as trees, bridges, and buildings. Should individual bats be roosting during construction activities, removal of active day roost sites that would result in the harm or mortality of native bats and would be considered a violation of the take provisions of Section 4150 of the California Fish and Game Code for non-game mammals (including native bats). To avoid or minimize the potential for take of roosting bats, Dudek recommends implementing the following measures:

- A qualified biologist shall conduct a habitat assessment for roosting bats within the project site. The habitat assessment shall include a visual inspection of potential roosting features (bats need not be present) and presence of guano within the project site, access routes, and 50 feet around these areas. The biologist shall survey these areas between 30 and 120 days prior to the start of work. Potential roosting features found during the survey shall be flagged or marked.
- Trees will be removed in pieces, rather than felling the entire tree.
- If a maternity roost is located, that roost will remain undisturbed with a buffer until a qualified biologist has determined that the roost is no longer active. If project activities must occur in close proximity to the buffer during the maternity roosting season, monitoring during construction may be required as determined by a qualified biologist.
- If the maternity roost is located in a tree or building that is planned for removal, roost exclusion must occur outside of the maternity roosting season prior to the removal of the roost. An Exclusion Plan will be developed detailing the methods for exclusion and replacement roost installation (such as the placement of bat boxes) that will require approval of CDFW prior to implementing exclusion. The Exclusion Plan will also include monitoring to ensure that all bats have left the roost prior to demolition or removal.
- If a non-maternity roost in a tree is found, the qualified biologist shall coordinate with the Contractor to avoid impacts to the roost if possible.
- Trees with suitable roosting opportunities will be removed in pieces, rather than felling the entire tree. Any potential roost location in a tree where absence of roosting could not be confirmed will be monitored to determine if any bats are leaving or falling out of a tree.

b, c. **Riparian Habitat and Wetlands:** The project site is primarily comprised of developed roadway (public ROW); direct disturbance due to the project could extend 10 feet on either side of the public ROW. There are sections of the proposed project alignment that would intersect riverine resources as designated by the National Wetlands Inventory (NWI); see **Figure 3**, Aquatic Resources. Project construction would involve directional boring or narrow open trenching. However, as part of the project, a Stormwater Pollution Prevention Plan (SWPPP) and water quality best management practices (BMPs) will be implemented. These measures may include, but are not limited to, straw wattles, sediment control fencing, and stormwater monitoring. Implementation of these measures will aid in avoidance of sediment runoff from the project areas to adjacent wetlands or waters. For these reasons, the project does not involve substantial construction work within or nearby riparian habitat or wetlands. The project would be operated remotely and therefore would involve no impact to riparian or wetland habitat during its operational phase. If complete avoidance of wetlands and/or waters is not feasible, implementation of Mitigation Measure BIO-3 would ensure impacts would be **less than significant with mitigation**.

Mitigation Measure BIO-3: If complete avoidance of jurisdictional aquatic resources is not feasible, aquatic resource permits from the USACE, RWQCB, and/or CDFW (e.g., 404 Nationwide Permit, 401 Water Quality Certification and 1600 Streambed Alteration Agreement) would be obtained prior to start of construction within the aquatic resources. Compensatory mitigation may be required for any permanent impacts to aquatic resources to ensure no net loss of these resources. Potential compensatory mitigation options would be determined in conjunction with the agencies during permitting and may include purchasing mitigation credits from an agency-approved wetlands mitigation bank or paying an agency-approved in-lieu fee.

If horizontal drilling is proposed under waterways subject to CDFW jurisdiction, a Streambed Alteration Agreement with supplemental Hydraulic Fracture (Frac-out) Avoidance Plan would be obtained prior to commencement of construction. The Plan shall describe the procedures for boring beneath waterways, and procedures for containing a hydraulic fracture.

d. **Migration Corridors:** The proposed project would not impact aquatic wildlife movements as there is no aquatic habitat present on site. The project is comprised of existing roadways and project construction could temporarily disturb up to 10 feet on either side of the public ROW. The project areas are generally bounded by existing urban development. In addition, the existing level of disturbance and frequent human activity (motorists) along the roadways likely precludes many wildlife species from migrating through the area. Although wildlife may move through the project area at times, the project site itself does not provide migratory corridor for terrestrial wildlife. The project does not include construction of any permanent structures that may impeded any terrestrial wildlife species from accessing the project areas or adjacent areas. No tree removal is anticipated. This impact would be **less than significant.**

e. **Local Policies:** EI Dorado County Code and General Plan Policies pertaining to the protection of biological resources would include protection of rare plants, setbacks to riparian areas, and mitigation of impacted oak woodlands. Rare plants were discussed above in the Special Status Species section. Riparian areas would be avoided. Where crossing of waters associated with riparian areas is required, Mitigation Measure BIO-3 would apply. No tree removals are anticipated during project construction. However, should the project impact a native oak tree (genus *Quercus*) or heritage tree as defined in Chapter 130.39 of the County Ordinance Code, Mitigation Measure BIO-4 shall apply.

Mitigation Measure BIO-4: If project construction would occur within the drip line of a living native oak tree (genus Quercus), the drip line shall be demarcated with environmentally sensitive area (ESA) fencing. No equipment, materials storage, or surface disturbance shall be allowed within the fenced drip line. Directional boring will be allowed beneath trees, with equipment staged and operated outside the drip line area. If removal of a native oak tree is required (or construction will affect 30% or more of the drip line area), replacement shall be required pursuant to Chapter 130.39 of the El Dorado County Ordinance Code. Replacement planting shall adhere to the Replacement Planting Guidelines outlined in Section 2.4 of the El Dorado County Oak Resources Management Plan. On-site replacement is preferred. If on-site replacement is infeasible, off-site replacement will be implemented at a site determined by the County

f. **Adopted Habitat Conservation Plans**: This project would not conflict with the provisions of an adopted Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There would be **no impact**.

FINDING: With implementation of mitigation measures BIO-1 through BIO-3, the potential impacts to biological resources would be less than significant.

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

Regulatory Setting:

Federal Laws, Regulations, and Policies

The National Register of Historic Places

The National Register of Historic Places (NRHP) is the nation's master inventory of known historic resources. The NRHP is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. The criteria for listing in the NRHP include resources that:

A. Are associated with events that have made a significant contribution to the broad patterns of history (events);
B. Are associated with the lives of persons significant in our past (persons);
C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (architecture); or
D. Have yielded or may likely yield information important in prehistory or history (information potential).

State Laws, Regulations, and Policies

California Register of Historical Resources

Public Resources Code Section 5024.1 establishes the CRHR. The register lists all California properties considered to be significant historical resources. The CRHR includes all properties listed as or determined to be eligible for listing in the National Register of Historic Places (NRHP), including properties evaluated under Section 106 of the National Historic Preservation Act. The criteria for listing are similar to those of the NRHP. Criteria for listing in the CRHR include resources that:

1. Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Are associated with the lives of persons important in our past;
3. Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or
4. Have yielded, or may be likely to yield, information important in prehistory or history.

The regulations set forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

The California Register of Historic Places

The California Register of Historic Places (CRHP) program encourages public recognition and protection of resources of architectural, historical, archeological and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under the California Environmental Quality Act. The criteria for listing in the CRHP include resources that:

A. Are associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
B. Are associated with the lives of persons important to local, California or national history.
C. Embody the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
D. Have yielded, or have the potential to yield, information important to the prehistory or history of the local area, California or the nation.

The State Office of Historic Preservation sponsors the California Historical Resources Information System (CHRIS), a statewide system for managing information on the full range of historical resources identified in California. CHRIS provides an integrated database of site-specific archaeological and historical resources information. The State Office of Historic Preservation also maintains the California Register of Historical Resources (CRHR), which identifies the State's architectural, historical, archeological and cultural resources. The CRHR includes properties listed in or formally determined eligible for the National Register and lists selected California Registered Historical Landmarks.

Public Resources Code (Section 5024.1[B]) states that any agency proposing a project that could potentially impact a resource listed on the CRHR must first notify the State Historic Preservation Officer and must work with the officer to ensure that the project incorporates "prudent and feasible measures that will eliminate or mitigate the adverse effects."

California Health and Safety Code Section 7050.5 requires 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 human remains are discovered has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

Section 5097.98 of the California Public Resources Code stipulates that whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The decedents may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of their notification by the Native American Heritage Commission. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

CEQA and CEQA Guidelines

Section 21083.2 of CEQA requires that the lead agency determine whether a project may have a significant effect on unique archaeological resources. A unique archaeological resource is defined in CEQA as an archaeological artifact, object, or site about which it can be clearly demonstrated that there is a high probability that it:

- Contains information needed to answer important scientific research questions, and there is demonstrable public interest in that information;
- Has a special or particular quality, such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.
- Although not specifically inclusive of paleontological resources, these criteria may also help to define "a unique paleontological resource or site."

Measures to avoid, conserve, preserve, or mitigate significant effects on these resources are also provided under CEQA Section 21083.2.

Section 15064.5 of the CEQA Guidelines notes that "a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Substantial adverse changes include physical changes to the historic resource or to its immediate surroundings, such that the significance of the historic resource would be materially impaired. Lead agencies are expected to identify potentially feasible measures to mitigate significant adverse changes in the significance of a historic resource before they approve such projects. Historic resources are those that are:

- listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Public Resources Code Section 5024.1[k]);
- included in a local register of historic resources (Public Resources Code Section 5020.1) or identified as significant in an historic resource survey meeting the requirements of Public Resources Code Section 5024.1(g); or
- determined by a lead agency to be historically significant.

CEQA Guidelines Section 15064.5 also prescribes the processes and procedures found under Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.95 for addressing the existence of, or probable likelihood of, Native American human remains, as well as the unexpected discovery of any human remains within the project site. This includes consultation with the appropriate Native American tribes.

CEQA Guidelines Section 15126.4 provides further guidance about minimizing effects to historical resources through the application of mitigation measures. Mitigation measures must be legally binding and fully enforceable.

The lead agency having jurisdiction over a project is also responsible to ensure that paleontological resources are protected in compliance with CEQA and other applicable statutes. Paleontological and historical resource management is also addressed in Public Resources Code Section 5097.5, "Archaeological, Paleontological, and Historical Sites." This statute defines as a misdemeanor any unauthorized disturbance or removal of a fossil site or remains on public land and specifies that state agencies may undertake surveys, excavations, or other operations as necessary on state lands to preserve or record paleontological resources. This statute would apply to any construction or other related project impacts that would occur on state-owned or state-managed lands. The County General Plan contains policies describing specific, enforceable measures to protect cultural resources and the treatment of resources when found.

Discussion: In general, significant impacts are those that diminish the integrity, research potential, or other characteristics that make a historical or cultural resource significant or important. A substantial adverse effect on Cultural Resources would occur if the implementation of the project would:

- Disrupt, alter, or adversely affect a prehistoric or historic archaeological site or property that is historically or culturally significant to a community or ethnic or social group; or a paleontological site except as a part of a scientific study;
- Affect a landmark of cultural/historical importance;
- Conflict with established recreational, educational, religious or scientific uses of the area; or
- Conflict with adopted environmental plans and goals of the community where it is located.

a. **Historic Resources:** A Built Environment Inventory Report was prepared for the project by Dudek in September 2021 (included as Appendix C to this Initial Study). The report considered whether the project would result in significant impacts to historical resources under CEQA. The report included the following components: (1) a California Historical Resources Information System (CHRIS) records search conducted at the Northwest Information Center (NWIC); (2) the definition of a Built Environment APE; (3) outreach to local historical societies requesting information about historic properties or historical resources within or adjacent to the APE; (4) a survey of the APE for built environment resources and; (5) an assessment of project effects to historic properties in conformance with Section 106 of the NHPA and an analysis of project-related impacts to historical resources in conformance with CEQA.

According to the report, the project has no potential to affect built environment building or structures because project construction and operation is limited to the public ROW. The project involves no easements or property takes. As such, there is no potential to effect built environment cultural resources. Therefore, there would be **no impact** to historic resources.

b. **Archaeological Resources:** An Archaeological Resources Inventory Report was prepared for the project by Dudek in September 2021 (included as Appendix C to this Initial Study). As part of the report, a records search was completed for the project's Area of Potential Effect (APE) and a 0.5-mile buffer by staff at the NCIC at California State University Sacramento on May 17, 2021. The NCIC records search identified a number of historic-era and prehistoric archaeological resources within the 0.5-mile search area, however, none of these intersect the APE or would otherwise be potentially affected by the project as presently designed.

Dudek archaeologists completed survey of the APE road shoulders. No archaeological resources were identified, and all areas appeared to have been substantially disturbed. Given the present conditions, and the findings of the NCIC search and survey, the potential of encountering and impacting unknown archaeological resources during project implementation is considered low.

If unanticipated archaeological discoveries were encountered, impacts to encountered resources could be potentially significant. However, recommended management strategies intended to address potential impacts to unanticipated cultural resources were provided in the report as mitigation measures. These mitigation measure require that all construction personnel should be appropriately informed of required responses to unanticipated cultural resources, should these be encountered. Mitigation measures also requires that all construction work occurring within 100 feet of an unanticipated cultural resource would immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology, can evaluate the significance of the find.

Through implementation of Mitigation Measure CUL-1, potentially significant impacts to archaeological resources would be reduced to a less than significant level. Therefore, impacts would be **less than significant with mitigation**.

Mitigation Measure CUL-1: Prior to the initiation of ground-disturbing work, construction crews shall be made aware of the potential to encounter cultural resources, including archaeological and tribal cultural resources, and the action to be taken if an unanticipated discovery is made. In the event that unanticipated potential archaeological deposits or features are exposed during construction activities, all construction

work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting Secretary of the Interior Standards in archaeology, has been retained and is provided an opportunity to evaluate the significance of the find and determine whether or not additional study is warranted. The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeologist. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment. The potential for avoidance should be the primary consideration of this initial process. Significance of the find shall be assessed as outlined by CEQA (14 CCR 15064.5[f]; PRC Section 21082). If the archaeologist observes the discovery to be potentially significant under CEQA or Section 106 of the NHPA, additional efforts, such as preparation of an archaeological treatment plan, testing, and/or data recovery, may be warranted prior to allowing construction to proceed in this area.

c. **Human Remains:** No prehistoric or historic-era burials were identified within the APE as a result of the records search conducted for the archaeological report. The project is not part of a dedicated cemetery. The NCIC records search indicated that burials of prehistoric Native American origin have been identified within 0.5 miles of the APE. Mitigation measures outlined above pertaining to preparing and implementing an archaeological monitoring and discovery plan and Worker Environmental Awareness Program would help ensure that unanticipated human remains would be appropriately respected and treated in compliance with regulatory requirements. Recommended management strategies below also include appropriate implementation of California Health and Safety Code Section 7050.5, PRC Section 5097.98, and other pertinent regulatory requirements. Compliance with applicable state regulations related to the potential disturbance of human remains and remains of potential Native American origin would be adequate to address any potential impacts.

No known human remains have been documented within the APE. The incorporation of Mitigation Measure CUL-2 will ensure that any impacts of the project remain less than significant even if unanticipated human remains are discovered.

Mitigation Measure CUL-2: In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, the county coroner shall be immediately notified of the discovery. The coroner shall provide a determination within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, shall occur until the coroner has reviewed next steps based on regulatory conditions and a determination has been made regarding if the find is human in origin. If the county coroner determines that the remains are, or are believed to be, Native American, the coroner shall notify the NAHC within 24 hours. In accordance with PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendent from the deceased Native American. Within 48 hours of the notification, the most likely descendent shall recommend to the lead agency their preferred treatment of the remains and associated grave goods.

FINDING: With implementation of mitigation measures CUL-1 and CUL-2, the potential impacts to cultural resources would be less than significant.

VI. ENERGY. *Would the project:*				
Would the proposal:	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Result in potential significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			**X**	
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				**X**

Impact Discussion:

a. **Energy Consumption:** The short-term construction and long-term operation of the project will require the consumption of energy resources. Construction and operational energy consumption of electricity, natural gas, and petroleum fuels is evaluated in detail below. As analyzed in this section, the overall impact is **less than significant**.

Electricity
Project construction would have minimal need for electricity. Construction equipment would be powered by gasoline or diesel, as described below.

The project proposes no development of aboveground buildings or structures requiring electricity. Fiber optic cables are not electrified. Operation of the project would have a negligible contribution to the project's overall energy consumption.

Natural Gas
Natural gas is not anticipated to be required during construction or operation of the proposed project.

Petroleum
Construction equipment associated with earthwork activities would rely on diesel fuel, as would haul and vendor trucks involved in remove materials off the project site. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed in this analysis that construction workers would travel to and from the site in gasoline-powered light-duty vehicles.

No mass grading or soil import/export is required. Overall, petroleum used during construction equipment would be minimal and temporary.

The proposed project, by improving the County's fiber optic infrastructure, would provide more opportunities for remote work, which may have a positive effect on transportation energy usage.

b. **Energy Plans and Efficiency Standards:** Part 6 of Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. Part 6 establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically (every 3 years) to incorporate and consider new energy efficiency technologies and methodologies. Title 24 also includes Part 11, CALGreen. CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, as well as schools and

hospitals. Title 24 is not directly applicable to the project, as it does not include development of buildings or other structures requiring energy. There would be **no impact**.

FINDING: The project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct any state or local plans for renewable energy or energy efficiency.

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

Regulatory Setting:

Federal Laws, Regulations, and Policies

National Earthquake Hazards Reduction Act

The National Earthquake Hazards Reduction Act of 1977 (Public Law 95-124) and creation of the National Earthquake Hazards Reduction Program (NEHRP) established a long-term earthquake risk-reduction program to better understand, predict, and mitigate risks associated with seismic events. The following four federal agencies are responsible for coordinating activities under NEHRP: USGS, National Science Foundation (NSF), Federal Emergency Management Agency (FEMA), and National Institute of Standards and Technology (NIST). Since its inception, NEHRP has shifted its focus from earthquake prediction to hazard reduction. The current program objectives (NEHRP 2021) are to:

1. Develop effective practices and policies for earthquake loss reduction and accelerate their implementation;

2. Improve techniques for reducing earthquake vulnerabilities of facilities and systems;
3. Improve earthquake hazards identification and risk assessment methods, and their use; and
4. Improve the understanding of earthquakes and their effects.

Implementation of NEHRP objectives is accomplished primarily through original research, publications, and recommendations and guidelines for state, regional, and local agencies in the development of plans and policies to promote safety and emergency planning.

State Laws, Regulations, and Policies

Alquist–Priolo Earthquake Fault Zoning Act

The Alquist–Priolo Earthquake Fault Zoning Act (Public Resources Code Section 2621 *et seq*.) was passed to reduce the risk to life and property from surface faulting in California. The Alquist–Priolo Act prohibits construction of most types of structures intended for human occupancy on the surface traces of active faults and strictly regulates construction in the corridors along active faults (earthquake fault zones). It also defines criteria for identifying active faults, giving legal weight to terms such as "active," and establishes a process for reviewing building proposals in and adjacent to earthquake fault zones. Under the Alquist-Priolo Act, faults are zoned and construction along or across them is strictly regulated if they are "sufficiently active" and "well defined." Before a project can be permitted, cities and counties are required to have a geologic investigation conducted to demonstrate that the proposed buildings would not be constructed across active faults.

Historical seismic activity and fault and seismic hazards mapping in the project vicinity indicate that the area has relatively low potential for seismic activity (El Dorado County 2003). No active faults have been mapped in the project area, and none of the known faults have been designated as an Alquist-Priolo Earthquake Fault Zone.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690–2699.6) establishes statewide minimum public safety standards for mitigation of earthquake hazards. While the Alquist–Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist–Priolo Act. The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other seismic hazards, and cities and counties are required to regulate development within mapped seismic hazard zones. In addition, the act addresses not only seismically induced hazards but also expansive soils, settlement, and slope stability.

Mapping and other information generated pursuant to the SHMA is to be made available to local governments for planning and development purposes. The State requires: (1) local governments to incorporate site-specific geotechnical hazard investigations and associated hazard mitigation, as part of the local construction permit approval process; and (2) the agent for a property seller or the seller if acting without an agent, must disclose to any prospective buyer if the property is located within a Seismic Hazard Zone. Under the Seismic Hazards Mapping Act, cities and counties may withhold the development permits for a site within seismic hazard zones until appropriate site-specific geologic and/or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans.

California Building Standards Code

Title 24 CCR, also known as the California Building Standards Code (CBC), specifies standards for geologic and seismic hazards other than surface faulting. These codes are administered and updated by the California Building Standards Commission. CBC specifies criteria for open excavation, seismic design, and load-bearing capacity directly related to construction in California.

Discussion: A substantial adverse effect on Geologic Resources would occur if the implementation of the project would:

- Allow substantial development of structures or features in areas susceptible to seismically induced hazards such as groundshaking, liquefaction, seiche, and/or slope failure where the risk to people and property resulting from earthquakes could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards;
- Allow substantial development in areas subject to landslides, slope failure, erosion, subsidence, settlement, and/or expansive soils where the risk to people and property resulting from such geologic hazards could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards; or
- Allow substantial grading and construction activities in areas of known soil instability, steep slopes, or shallow depth to bedrock where such activities could result in accelerated erosion and sedimentation or exposure of people, property, and/or wildlife to hazardous conditions (e.g., blasting) that could not be mitigated through engineering and construction measures in accordance with regulations, codes, and professional standards.

a. **Seismic Hazards:**
i) According to the California Department of Conservation Division of Mines and Geology and El Dorado County General Plan, there are no Alquist-Priolo fault zones within El Dorado County (DOC 2021 and El Dorado County 2003). The nearest such faults are located in Alpine and Butte Counties. There would be **no impact**.

ii, -iii, -iv) The potential for seismic ground shaking in the project area would be considered remote for the reason stated in Section i) above. Any potential impacts due to seismic impacts would be addressed through compliance with the Uniform Building Code (UBC). Fiber optic cables would be installed to meet the construction standards of the UBC for the appropriate seismic zone. El Dorado County is considered an area with low potential for seismic activity. There are no landslide, liquefaction, or fault zones (El Dorado County 2003). Finally, the project would not be inhabited or visited by any persons. For these reasons, there would be **no impact**.

b. **Soil Erosion:** The project does not include substantial grading activities or excavation of significant amounts of earth material. Construction under the project involves the installation of fiber optic cables approximately 18 inches underground. The cables would be installed through directional boring or trenching techniques. If direction boring is employed, boring pits would be located 1000 – 2000 feet apart. Any grading activities on site would be required to comply with the El Dorado County Grading, Erosion and Sediment Control Ordinance including the implementation of pre- and post-construction Best Management Practices (BMPs). Implemented BMPs are required to be consistent with the County's California Storm Water Pollution Prevention Plan (SWPPP) issued by the State Water Resources Control Board to eliminate run-off and erosion and sediment controls. Any grading activities exceeding 250 cubic yards of graded material or grading completed for the purpose of supporting a structure must meet the provisions contained in the County of El Dorado Grading, Erosion, and Sediment Control Ordinance. Project impacts would be **less than significant**.

c. **Geologic Hazards:** The project involves only the installation of belowground fiber optic cables. Therefore, the project does not propose components, such as buildings or structures, that could potentially be impacted by landslide, lateral spreading, subsidence, liquefaction or collapse. **No impacts** would occur.

d. **Expansive Soils:** As noted in Section C) above, the project would not introduce any aboveground components, such as buildings or structures; the project would not be inhabited. Therefore, the project would not lead to risks to life or property by expansive soils, in the scenario that they are present in the project areas. **No impacts** would occur.

e. **Septic Capability:** The project would not generate wastewater. Therefore, the use of septic tanks or alternate wastewater disposal systems are not proposed and there would be **no impact**.

f. **Paleontological Resources:** The project would involve directional boring or trenching at depths typically at approximately 18 inches below grade with the public ROW. Given the prior disturbance of soils along the public ROW (project site) and the shallow depths affected by boring/trenching, impacts to paleontological resources would be **less than significant**.

FINDING: A review of the soils and geologic conditions on the project site determined that the project would not result in a substantial adverse effect. All grading activities would be required to comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance which would address potential impacts related to soil erosion, landslides and other geologic impacts. Future development would not introduce new buildings or structures and would be required to comply with the Uniform Building Code which would address potential seismic related impacts. For this Geology and Soils category, impacts would be less than significant.

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

Introduction:

Cumulative greenhouse gases (GHG) emissions are believed to contribute to an increased greenhouse effect and global climate change, which may result in sea level rise, changes in precipitation, habitat, temperature, wildfires, air pollution levels, and changes in the frequency and intensity of weather-related events. While criteria air pollutants and TACs are pollutants of regional and local concern (see Section III. Air Quality above); GHG are global pollutants. The primary land-use related GHG are carbon dioxide (CO_2), methane (CH_4) and nitrous oxides (N_2O). The individual pollutant's ability to retain infrared radiation represents its "global warming potential" and is expressed in terms of CO_2 equivalents; therefore, CO_2 is the benchmark having a global warming potential of 1. CH_4 has a global warming potential of 25 and thus has a 25 times greater global warming effect per metric ton of CH_4 than CO_2. N_2O has a global warming potential of 298. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., MT CO_2e per year). Other GHGs include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). While these compounds have significantly higher global warming potentials (ranging in the thousands), these typically are not a concern in land-use development projects and are usually only used in specific industrial processes.

GHG Sources

The primary man-made source of CO_2 is the burning of fossil fuels; the two largest sources being coal burning to produce electricity and petroleum burning in combustion engines. The primary sources of man-made CH_4 are natural gas systems losses (during production, processing, storage, transmission and distribution), enteric fermentation (digestion from livestock) and landfill off-gassing. The primary source of man-made N_2O is agricultural soil management (fertilizers), with fossil fuel combustion a very distant second. In El Dorado County, the primary source of GHG is fossil fuel combustion mainly in the transportation sector (estimated at 70% of countywide GHG emissions). A distant second are residential sources (approximately 20%), and commercial/industrial sources are third (approximately 7%). The remaining sources are waste/landfill (approximately 3%) and agricultural (<1%) (EDCAQMD n.d.).

Regulatory Setting:

Federal Laws, Regulations, and Policies

At the federal level, USEPA has developed regulations to reduce GHG emissions from motor vehicles and has developed permitting requirements for large stationary emitters of GHGs. On April 1, 2010, USEPA and the National Highway Traffic Safety Administration (NHTSA) established a program to reduce GHG emissions and improve fuel economy standards for new model year 2012-2016 cars and light trucks. On August 9, 2011, USEPA and the NHTSA announced standards to reduce GHG emissions and improve fuel efficiency for heavy-duty trucks and buses.

State Laws, Regulations, and Policies

Executive Order (EO) S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the *California Climate Solutions Act of 2006* (Stats. 2006, ch. 488) (Health & Safety Code, Section 38500 et seq.). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives. One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code, Section 38561(a)), and to update the plan at least once every 5 years.

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. Senate Bill (SB) 32 was adopted in 2016, which codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030.

In June 2008, the California Governor's Office of Planning and Research's (OPR) issued a Technical Advisory (OPR 2008) providing interim guidance regarding a proposed project's GHG emissions and contribution to global climate change. In the absence of adopted local or statewide thresholds, OPR recommends the following approach for analyzing GHG emissions: Identify and quantify the project's GHG emissions, assess the significance of the impact on climate change; and if the impact is found to be significant, identify alternatives and/or Mitigation Measures that would reduce the impact to less than significant levels.

Discussion:

Impact Significance Criteria

CEQA requires lead agencies to make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change (CEQA Guidelines Section 15064.4). GHG impacts are inherently cumulative, and since no single project could cause global climate change, the CEQA test is if impacts are "cumulatively considerable." Not all projects emitting GHG contribute significantly to climate change. CEQA authorizes reliance on previously approved plans (i.e., a Climate Action Plan (CAP), etc.) and mitigation programs adequately analyzing and mitigating GHG emissions to a less than significant level. "Tiering" from such a programmatic-level document is the preferred method to address GHG emissions. El Dorado County does not have an adopted CAP or similar program-level document; therefore, the project's GHG emissions must be addressed at the project-level.

Unlike thresholds of significance established for criteria air pollutants in EDCAQMD's *Guide to Air Quality Assessment*, the EDCAQMD has not adopted GHG emissions thresholds for land use development projects. In the absence of County adopted thresholds, EDCAQMD recommends using the adopted thresholds of other lead agencies which are based on consistency with the goals of AB 32. Projects exceeding these thresholds would have a potentially significant impact and be required to mitigate those impacts to a less than significant level. Until the County adopts a CAP consistent with CEQA Guidelines Section 15183.5, and/or establishes GHG thresholds, the County will follow an interim approach to evaluating GHG emissions utilizing significance criteria adopted by the

San Luis Obispo Air Pollution Control District (SLOAPCD), as recommended by the EDCAQMD, to determine the significance of GHG emissions, based on substantial evidence (SLOACPD 2012). These are summarized below:

- The threshold for stationary sources is 10,000 MT CO_2e per year
- For nonstationary sources, the following two separate thresholds have been established:
  - 1,150 MT CO_2e per year
  - 4.9 MT CO2e per service population per year (Service population is the sum of residents plus employees expected for a development project.)

As the proposed project does not include stationary sources, the quantitative threshold of 1,150 MT CO_2e annually adopted by SLOAPCD is applied to this analysis. Per the SLOAPCD guidance, construction emissions of GHG are amortized over a 25-year life span of the project.

Impact Discussion:

a. **GHG Emissions:** The project would result in GHG emissions associated with short-term construction. The project would not result in direct or indirect emissions of GHG.

Construction

Construction of the proposed project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, vendor and haul trucks, and worker vehicles. CalEEMod was used to calculate the annual GHG emissions. A detailed description of the construction schedule—including information regarding phasing, equipment utilized during each phase, trucks, and worker vehicles—is included in Appendix A. The estimated project-generated GHG emissions from construction activities are shown in Table 8-1.

Table 8-1. Estimated Annual Construction GHG Emissions

Project Phase	CO_2	CH_4	N_2O	CO_2e
	metric tons per phase			
Grubbing/Land Clearing	74.65	0.01	0.00	75.30
Grading/Excavation	802.59	0.15	0.01	809.99
Drainage/Utilities/Sub-Grade	391.83	0.07	0.01	395.45
Paving	130.28	0.02	0.00	131.53
Total Project Construction GHG Emissions				1,412.27
Amortized GHG Emissions (25-Years)				*56.49*

Notes: See Appendix A for detailed results.
MT = metric tons; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.

As shown in Table 8-1, estimated total annual construction GHG emissions would be approximately 1,412 MT CO_2e. Consistent with the SLOAPCD guidance, the proposed project's construction-related GHG emissions have been amortized over 25 years, resulting in approximately 56 MT CO_2e per year. This is below the threshold of 1,150 MT CO_2e. Thus, construction impacts related to GHG would be less than significant .

b. **GHG Reduction Plans:** The CARB Scoping Plan, approved by CARB in 2008 and updated in 2014 and 2017, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not

directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[1] Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. To the extent that these regulations are applicable to the project or its uses, the project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law.

The project would also not impede the attainment of the GHG reduction goals for 2030 or 2050 identified in SB 32 and EO S-3-05, respectively. EO S-3-05 establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. SB 32 establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. While there are no established protocols or thresholds of significance for that future year analysis; CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory of meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014).

CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update states the following (CARB 2014):

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and EO S-3-05. This is confirmed in the Second Update, which states (CARB 2017):

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197.

The project would be consistent with the applicable strategies and measures in the Scoping Plan and is consistent with, and would not impede, the state's trajectory toward the above-described statewide GHG reduction goals for 2030 or 2050. In addition, since the specific path to compliance for the state in regard to the long-term goals

[1] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the project would be speculative and cannot be identified at this time. With respect to future GHG targets under SB 32 and EO S-3-05, CARB has also made clear its legal interpretation that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32's 40% reduction target by 2030 and EO S-3-05's 80% reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets.

Based on the above considerations, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required. This impact would be **less than significant**.

Mitigation Measures: None Required.

FINDING: The project would result in less than significant impacts to GHG emissions. For this Greenhouse Gas Emissions category, there would be no significant adverse environmental effect as a result of the project.

IX. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			**X**	
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?			**X**	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			**X**	
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?				**X**
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				**X**
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			**X**	
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			**X**	

Regulatory Setting:

Hazardous materials and hazardous wastes are subject to extensive federal, state, and local regulations to protect public health and the environment. These regulations provide definitions of hazardous materials; establish reporting requirements; set guidelines for handling, storage, transport, and disposal of hazardous wastes; and require health and safety provisions for workers and the public. The major federal, state, and regional agencies enforcing these regulations are USEPA and the Occupational Safety and Health Administration (OSHA); California Department of Toxic Substances Control (DTSC); California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA); California Governor's Office of Emergency Services (Cal OES); and EDCAPCD.

Federal Laws, Regulations, and Policies

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also called the Superfund Act; 42 USC Section 9601 *et seq.*) is intended to protect the public and the environment from the effects of past hazardous waste disposal activities and new hazardous material spills. Under CERCLA, USEPA has the authority to seek the parties responsible for hazardous materials releases and to ensure their cooperation in site remediation. CERCLA also provides federal funding (through the "Superfund") for the remediation of hazardous

materials contamination. The Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-499) amends some provisions of CERCLA and provides for a Community Right-to-Know program.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act of 1976 (RCRA; 42 USC Section 6901 *et seq.*), as amended by the Hazardous and Solid Waste Amendments of 1984, is the primary federal law for the regulation of solid waste and hazardous waste in the United States. These laws provide for the "cradle-to-grave" regulation of hazardous wastes, including generation, transportation, treatment, storage, and disposal. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed of.

USEPA has primary responsibility for implementing RCRA, but individual states are encouraged to seek authorization to implement some or all RCRA provisions. California received authority to implement the RCRA program in August 1992. DTSC is responsible for implementing the RCRA program in addition to California's own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law.

Energy Policy Act of 2005

Title XV, Subtitle B of the Energy Policy Act of 2005 (the Underground Storage Tank Compliance Act of 2005) contains amendments to Subtitle I of the Solid Waste Disposal Act, the original legislation that created the Underground Storage Tank (UST) Program. As defined by law, a UST is "any one or combination of tanks, including pipes connected thereto, that is used for the storage of hazardous substances and that is substantially or totally beneath the surface of the ground." In cooperation with USEPA, SWRCB oversees the UST Program. The intent is to protect public health and safety and the environment from releases of petroleum and other hazardous substances from tanks. The four primary program elements include leak prevention (implemented by Certified Unified Program Agencies [CUPAs], described in more detail below), cleanup of leaking tanks, enforcement of UST requirements, and tank integrity testing.

Spill Prevention, Control, and Countermeasure Rule

USEPA's Spill Prevention, Control, and Countermeasure (SPCC) Rule (40 CFR, Part 112) apply to facilities with a single above-ground storage tank (AST) with a storage capacity greater than 660 gallons, or multiple tanks with a combined capacity greater than 1,320 gallons. The rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires specific facilities to prepare, amend, and implement SPCC Plans.

Occupational Safety and Health Administration

OSHA is responsible at the federal level for ensuring worker safety. OSHA sets federal standards for implementation of workplace training, exposure limits, and safety procedures for the handling of hazardous substances (as well as other hazards). OSHA also establishes criteria by which each state can implement its own health and safety program.

Code of Federal Regulations (14 CFR) Part 77

14 CFR Part 77.9 is designed to promote air safety and the efficient use of navigable airspace. Implementation of the code is administered by the Federal Aviation Administration (FAA). If an organization plans to sponsor any construction or alterations that might affect navigable airspace, a Notice of Proposed Construction or Alteration (FAA Form 7460-1) must be filed (if required). The code provides specific guidance regarding FAA notification requirements.

State Laws, Regulations, and Policies

Safe Drinking Water and Toxic Enforcement Act of 1986 – Proposition 65

The Safe Drinking Water and Toxic Enforcement Act of 1986, more commonly known as Proposition 65, protects the state's drinking water sources from contamination with chemicals known to cause cancer, birth defects, or other reproductive harm. Proposition 65 also requires businesses to inform the public of exposure to such chemicals in the products they purchase, in their homes or workplaces, or that are released into the environment. In accordance with Proposition 65, the California Governor's Office publishes, at least annually, a list of such chemicals. OEHHA, an agency under the California Environmental Protection Agency (CalEPA), is the lead agency for implementation of the Proposition 65 program. Proposition 65 is enforced through the California Attorney General's Office; however, district and city attorneys and any individual acting in the public interest may also file a lawsuit against a business alleged to be in violation of Proposition 65 regulations.

The Unified Program

The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. CalEPA and other state agencies set the standards for their programs, while local governments (CUPAs) implement the standards. For each county, the CUPA regulates/oversees the following:

- Hazardous materials business plans;
- California accidental release prevention plans or federal risk management plans;
- The operation of USTs and ASTs;
- Universal waste and hazardous waste generators and handlers;
- On-site hazardous waste treatment;
- Inspections, permitting, and enforcement;
- Proposition 65 reporting; and
- Emergency response.

California Occupational Safety and Health Administration

Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations in California. Cal/OSHA regulations pertaining to the use of hazardous materials in the workplace (CCR Title 8) include requirements for safety training, availability of safety equipment, accident and illness prevention programs, warnings about exposure to hazardous substances, and preparation of emergency action and fire prevention plans. Hazard communication program regulations that are enforced by Cal/OSHA require workplaces to maintain procedures for identifying and labeling hazardous substances, inform workers about the hazards associated with hazardous substances and their handling, and prepare health and safety plans to protect workers at hazardous waste sites. Employers must also make material safety data sheets available to employees and document employee information and training programs. In addition, Cal/OSHA has established maximum permissible RF radiation exposure limits for workers (Title 8 CCR Section 5085[b]), and requires warning signs where RF radiation might exceed the specified limits (Title 8 CCR Section 5085 [c]).

California Accidental Release Prevention

The purpose of the California Accidental Release Prevention (CalARP) program is to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. In accordance with this program, businesses that handle more than a threshold quantity of regulated substance are required to develop a risk management plan (RMP). This RMP must provide a detailed analysis of potential risk factors and associated mitigation measures that can be implemented to reduce accident potential. CUPAs implement the CalARP program through review of RMPs, facility inspections, and public access to information that is not confidential or a trade secret.

California Department of Forestry and Fire Protection Wildland Fire Management

The Office of the State Fire Marshal and CAL FIRE administer state policies regarding wildland fire safety. Construction contractors must comply with the following requirements in the Public Resources Code during construction activities at any sites with forest-, brush-, or grass-covered land:

- Earthmoving and portable equipment with internal combustion engines must be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (Public Resources Code Section 4442).
- Appropriate fire-suppression equipment must be maintained from April 1 to December 1, the highest-danger period for fires (Public Resources Code Section 4428).
- On days when a burning permit is required, flammable materials must be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor must maintain the appropriate fire suppression equipment (Public Resources Code Section 4427).
- On days when a burning permit is required, portable tools powered by gasoline fueled internal combustion engines must not be used within 25 feet of any flammable materials (Public Resources Code Section 4431).

California Highway Patrol

CHP, along with Caltrans, enforce and monitor hazardous materials and waste transportation laws and regulations in California. These agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roads. All motor carriers and drivers involved in transportation of hazardous materials must apply for and obtain a hazardous materials transportation license from CHP.

Local Laws, Regulations, and Policies

A map of the fuel loading in the County (General Plan Figure HS-1) shows the fire hazard severity classifications of the SRAs in El Dorado County, as established by CDF. The classification system provides three classes of fire hazards: Moderate, High, and Very High. Fire Hazard Ordinance (Chapter 8.08) requires defensible space as described by the State Public Resources Code, including the incorporation and maintenance of a 30-foot fire break or vegetation fuel clearance around structures in fire hazard zones. The Fire Hazard Ordinance also establishes limits on campfires, fireworks, smoking, and incinerators for all discretionary and ministerial developments.

Discussion: A substantial adverse effect due to Hazards or Hazardous Materials would occur if implementation of the project would:

- Expose people and property to hazards associated with the use, storage, transport, and disposal of hazardous materials where the risk of such exposure could not be reduced through implementation of Federal, State, and local laws and regulations;
- Expose people and property to risks associated with wildland fires where such risks could not be reduced through implementation of proper fuel management techniques, buffers and landscape setbacks, structural design features, and emergency access; or
- Expose people to safety hazards as a result of being located on a site which is included on a list of hazardous materials.

a. **Use of Hazardous Materials:** Project construction may involve transportation, use, and disposal of hazardous materials such as construction materials and fuels. The majority of the use of these hazardous materials would occur primarily during construction. Any uses of hazardous materials would be required to comply with all applicable federal, state, and local standards associated with the handling and storage of hazardous materials. However, the proposed belowground fiber optic project would generate virtually no amounts of hazardous materials when operational. As such, impacts would be **less than significant**.

b. **Release of Hazardous Materials:** As discussed above in Section A), the use of hazardous materials during construction activities would be subject to compliance with applicable federal, state, and local statutes and regulations pertaining to hazardous materials. Compliance with these regulations would reduce the

potential for hazardous materials to be released into the environment during construction. Compliance with the listed procedures and plans would minimize the potential for substantial effects to occur associated with the release of a hazardous material into the environment. Project impacts would be **less than significant**.

c. **Hazardous Materials near Schools:** The nearest school to the proposed project site is Golden Sierra High School which is approximately 400 feet east of Marshall Road ROW in the community of Garden Valley. However, as previously discussed, the project would not be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. The project would be required to ensure that hazardous chemicals and solid wastes are handled per County, State, and Federal regulations. As such, impacts would be anticipated to be **less than significant**.

d. **Hazardous Sites:** A search of the Department of Toxic Substances Control (DTSC) EnviroStor database does not reveal the proposed project site to be an active hazardous materials site. The project site is not included on a list of or near any hazardous materials sites pursuant to Government Code section 65962.5 (DTSC 2022). There would be **no impact**.

e. **Airport Compatibility:** According to the El Dorado County Airport Land Use Compatibility Plan (El Dorado County Airport Land Use Commission 2012) a portion of the project site, along Main Street in the community of Georgetown, is within the Georgetown Airport Influence Area. However, the project is outside of the designated safety and noise exposure zones according to the plan. As such, the project would not be subject to any land use limitations contained within any adopted plan and there would be no immediate hazard for people working in the project area or safety hazard resulting from airport operations and aircraft over-flights in the vicinity of the project site**.** Furthermore, the project would not result in any permanent above ground structures that could pose a hazard to aviation. The project would have **no impact** regarding existing airport land uses.

f. **Emergency Plan:** The project involves the installation of belowground fiber optic cables within existing public ROW. The use of directional boring would minimize road closures – some temporary lane closures may be necessary for the boring equipment or for trenching in areas where boring is infeasible. Entry pit locations for boring would be spaced 1000 to 2000 feet apart. Complete road closures would not be necessary, and therefore would not interfere with emergency evacuation routes. Impacts would be **less than significant**.

g. **Wildfire Hazards:** The degree of hazard in wildland areas depends on weather variables like temperature, wind, and moisture, the amount of dryness and arrangement of vegetation, slope steepness, and accessibility to human activities, accessibility of firefighting equipment, and fuel clearance around structures. According to the CAL FIRE (CAL FIRE 2007) Fire Hazard Severity Zone map, the project areas are located in a State Responsibility Area (SRA), within designated high or very high hazard severity zones. However, the project involves only the installation of belowground fiber optic cables and would not increase the number of people or structures in the project areas. Construction activities would take place within existing roadways, within the paved roadway or the shoulders. Equipment used for directional boring typically includes the drill rig and a backhoe. Equipment for trenching typically includes a backhoe, haul trucks, as well as compaction and potentially paving equipment. A water truck may be necessary in areas without access to water (such as hydrants). This equipment does not pose a significant risk for potential wildfire. Therefore, the impact would be **less than significant**.

FINDING: The proposed project would not expose the area to hazards relating to the use, storage, transport, or disposal of hazardous materials. For this Hazards and Hazardous Materials category, impacts would be less than significant.

X. HYDROLOGY AND WATER QUALITY. Would the project:				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			**X**	
a. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			**X**	
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;			**X**	
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;			**X**	
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			**X**	
iv. impede or redirect flood flows?			**X**	
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				**X**
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			**X**	

Regulatory Setting:

Federal Laws, Regulations, and Policies

Clean Water Act

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The key sections pertaining to water quality regulation for the Proposed Project are CWA Section 303 and Section 402.

Section 303(d) — Listing of Impaired Water Bodies

Under CWA Section 303(d), states are required to identify "impaired water bodies" (those not meeting established water quality standards), identify the pollutants causing the impairment, establish priority rankings for waters on the list, and develop a schedule for the development of control plans to improve water quality. USEPA then approves the State's recommended list of impaired waters or adds and/or removes waterbodies.

Section 402—NPDES Permits for Stormwater Discharge

CWA Section 402 regulates construction-related storm water discharges to surface waters through the NPDES, which is officially administered by USEPA. In California, USEPA has delegated its authority to the State Water Resources Control Board (SWRCB), which, in turn, delegates implementation responsibility to the nine RWQCBs, as discussed below in reference to the Porter-Cologne Water Quality Control Act.

The NPDES program provides for both general (those that cover a number of similar or related activities) and individual (activity- or project-specific) permits. General Permit for Construction Activities: Most construction projects that disturb 1.0 or more acre of land are required to obtain coverage under SWRCB's General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ). The general permit requires that the applicant file a public notice of intent to discharge storm water and prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). SWPPP must include a site map and a description of the proposed construction activities, demonstrate compliance with relevant local ordinances and regulations, and present a list of Best Management Practices (BMPs) that will be implemented to prevent soil erosion and protect against discharge of sediment and other construction-related pollutants to surface waters. Permittees are further required to monitor construction activities and report compliance to ensure that BMPs are correctly implemented and are effective in controlling the discharge of construction-related pollutants.

Municipal Storm Water Permitting Program

SWRCB regulates storm water discharges from municipal separate storm sewer systems (MS4s) through its Municipal Storm Water Permitting Program (SWRCB, 2013). Permits are issued under two phases depending on the size of the urbanized area/municipality. Phase I MS4 permits are issued for medium (population between 100,000 and 250,000 people) and large (population of 250,000 or more people) municipalities, and are often issued to a group of co-permittees within a metropolitan area. Phase I permits have been issued since 1990. Beginning in 2003, SWRCB began issuing Phase II MS4 permits for smaller municipalities (population less than 100,000).

El Dorado County is covered under two SWRCB Regional Boards. The West Slope Phase II Municipal Separate Storm Sewer Systems (MS4) NPDES Permit is administered by the Central Valley Regional Water Quality Control Board (RWQCB) (Region Five). The Lake Tahoe Phase I MS4 NPDES Permit is administered by the Lahontan RWQCB (Region Six). The current West Slope MS4 NPDES Permit was adopted by the SWRCB on February 5, 2013. The Permit became effective on July 1, 2013 for a term of five years and focuses on the enhancement of surface water quality within high priority urbanized areas. The current Lake Tahoe MS4 NPDES Permit was adopted and took effect on December 6, 2011 for a term of five years. The Permit incorporated the Lake Tahoe Total Maximum Daily Load (TMDL) and the Lake Clarity Crediting Program (LCCP) to account for the reduction of fine sediment particles and nutrients discharged to Lake Tahoe.

On May 19, 2015, the El Dorado County Board of Supervisors formally adopted revisions to the Storm Water Quality Ordinance (Ordinance 4992). Previously applicable only to the Lake Tahoe Basin, the ordinance establishes legal authority for the entire unincorporated portion of the County. The purpose of the ordinance is to 1) protect health, safety, and general welfare, 2) enhance and protect the quality of Waters of the State by reducing pollutants in storm water discharges to the maximum extent practicable and controlling non-storm water discharges to the storm drain system, and 3) cause the use of Best Management Practices to reduce the adverse effects of polluted runoff discharges on Waters of the State.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities complying with FEMA regulations that limit development in floodplains. The NFIP regulations permit development within special flood hazard zones provided that residential structures are raised above the base flood elevation of a 100-year flood event. Non-residential structures are required either to provide flood proofing construction techniques for that portion of structures below the 100-year flood

elevation or to elevate above the 100-year flood elevation. The regulations also apply to substantial improvements of existing structures.

State Laws, Regulations, and Policies

Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (known as the Porter–Cologne Act), passed in 1969, dovetails with the CWA (see discussion of the CWA above). It established the SWRCB and divided the state into nine regions, each overseen by an RWQCB. SWRCB is the primary State agency responsible for protecting the quality of the state's surface water and groundwater supplies; however, much of the SWRCB's daily implementation authority is delegated to the nine RWQCBs, which are responsible for implementing CWA Sections 401, 402, and 303[d]. In general, SWRCB manages water rights and regulates statewide water quality, whereas RWQCBs focus on water quality within their respective regions.

The Porter–Cologne Act requires RWQCBs to develop water quality control plans (also known as basin plans) that designate beneficial uses of California's major surface-water bodies and groundwater basins and establish specific narrative and numerical water quality objectives for those waters. Beneficial uses represent the services and qualities of a waterbody (i.e., the reasons that the waterbody is considered valuable). Water quality objectives reflect the standards necessary to protect and support those beneficial uses. Basin plan standards are primarily implemented by regulating waste discharges so that water quality objectives are met. Under the Porter–Cologne Act, basin plans must be updated every 3 years.

Discussion: A substantial adverse effect on Hydrology and Water Quality would occur if the implementation of the project would:

- Expose residents to flood hazards by being located within the 100-year floodplain as defined by the Federal Emergency Management Agency;
- Cause substantial change in the rate and amount of surface runoff leaving the project site ultimately causing a substantial change in the amount of water in a stream, river or other waterway;
- Substantially interfere with groundwater recharge;
- Cause degradation of water quality (temperature, dissolved oxygen, turbidity and/or other typical storm water pollutants) in the project area; or
- Cause degradation of groundwater quality in the vicinity of the project site.

a. **Water Quality Standards:** There is potential for the proposed project to result in degradation of water quality during both the construction phase. Polluted runoff from the project site during construction and include sediment from soil disturbances, and oil and grease from construction equipment. The greatest potential source of water contaminants from the proposed development would be from erosion related to construction. After the project is constructed, there would be no operations or increase in impervious surface that would lead to additional surface water runoff.

The project does not involve significant grading or earthwork. The primary disturbance to the surface is the construction of temporary entry pits, which are approximately 5x5x5 feet, located every 1000 to 2000 feet. These pits are backfilled and recompacted after boring and may be used as the location for service vaults or service points for future customer ("last mile") connections. Although individually small, ground disturbance along the length of the complete project may have the potential to result in soil erosion or loss of topsoil which could lead to runoff. The project would be subject to the NPDES permit, which requires the use of Best Management Practices (BMPs), as outlined in the Storm Water Management Plan for Western El Dorado County (SWMP), to minimize water quality impacts from construction projects. The County would obtain coverage for the project under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity, Order No. 99-08 DWQ. In accordance with the provisions of the General Permit and the SWMP, the County would require the contractor to prepare and implement a Storm Water Pollution Prevention Plan to reduce or minimize discharge of pollutants from construction activities. Due to the implementation of BMPs as required by El Dorado County and the NPDES permit,

construction activities associated with the project would result in less than significant impacts to water quality. With adherence to the County Code, impacts would be **less than significant**.

b. **Groundwater Supplies:** The project involves the installation of fiber optic cables within existing roadways. The project does not include any development or structures requiring water. Furthermore, the project would not result in an increase in impervious surface. Therefore, the project would not result in the withdraw of groundwater or reduction in groundwater recharge. Impacts to groundwater supplies would be **less than significant**.

c. i, ii, iii, iv) **Drainage Patterns:** No adverse increase in overall runoff and flows from pre-development levels is anticipated from the post-development project design. The project would be required to conform to the El Dorado County Grading, Erosion Control, and Sediment Ordinance County Code Section 110.14. This includes the use of BMPs to minimize degradation of water quality during construction. As described in Section a) above, there would be no increase in impervious surface as a result of the project. Storm water flow from roadways would continue to be captured in roadside ditches or existing storm drain systems in virtually the same condition as existing. Buildout of the project would not impede or redirect flood flows because there would be no increase in impervious surface or change in drainage patterns. Construction would require the use of water (which may be used in the boring process to cool and guide the bore head). However, this would be a temporary, contained to the entry pits, and subject to best management practices as discussed in item a) above. Therefore, impacts would be **less than significant.**

d. **Flood-related Hazards:** The project areas are not located within any mapped 100-year flood areas as shown on Firm Panel Numbers 06017C0175E, 06017C0200E, 06017C0225E, and 06017C0500E, which were revised September 26, 2008 (FEMA 2008). The project would not result in the construction of any structures that would impede or redirect flood flows. No dams that would result in potential hazards related to dam failures are located in the project area. Additionally, there are no nearby water bodies that would pose a tsunami or seiche-related risk to the project site. There would be **no impact**.

e. **Water Quality and Groundwater Management Plans.** Refer to the answers in Sections a) through c) above. The project would adhere to all applicable plans and standards, including those of the NPDES Permit program, Section 110.14 of the El Dorado County Code. The project is not anticipated to violate any water quality standards or waste discharge requirements during construction or operation. Additionally, the project would not conflict with any sustainable groundwater management plan because it would not require groundwater extraction. Therefore, impacts would be **less than significant.**

FINDING: For this project, no significant hydrological impacts are expected with the development of the project either directly or indirectly. For this hydrology category, impacts are anticipated to be less than significant.

XI. LAND USE PLANNING. *Would the project:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Physically divide an established community?				**X**
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?			**X**	

Regulatory Setting:

California State law requires that each City and County adopt a general plan "for the physical development of the City and any land outside its boundaries which bears relation to its planning." Typically, a general plan is designed to address the issues facing the City or County for the next 15-20 years. The general plan expresses the community's development goals and incorporates public policies relative to the distribution of future public and private land uses. The El Dorado County General Plan was adopted in 2004. The 2013-2021 Housing Element was adopted in 2013.

Discussion: A substantial adverse effect on Land Use would occur if the implementation of the project would:

- Physically divide an established community;
- Result in a use substantially incompatible with the existing surrounding land uses; or
- Conflict with adopted environmental plans, policies, and goals of the community.

a. **Established Community:** The project would not result in the physical division of an established community as it proposes underground installation of fiber optic cables within the existing public ROW; the project does not involve the construction of structures or buildings or expansion of the public ROW. There would be **no impact**.

b. **Land Use Consistency:** The project site spans threes project areas within the communities of Cool, Garden Valley, and Georgetown within existing public ROW. The public ROW does not have a zoning designation per the El Dorado County Zoning Ordinance. The proposed project would be routed along properties that have General Plan Land Use designations of Commercial, Multi-Family Residential, Low Density Residential, Medium Density Residential, High Density Residential, Open Space, Public Facilities, and Industrial, as shown in **Figure 4**. The project is intended to improve broadband services to these communities and surrounding households and businesses. Therefore, the proposed project would generally benefit these communities and would not pose conflict with land use development goals, objectives, and policies of the County's General Plan. For these reasons, impacts would be **less than significant**.

FINDING: The proposed use of the land would be consistent with the Zoning Ordinance and General Plan. There would be no impact to land use goals or standards resulting from the project.

XI. MINERAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
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?				**X**
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?				**X**

Regulatory Setting:

Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies apply to mineral resources and the Proposed Project.

State Laws, Regulations, and Policies

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) requires that the State Mining and Geology Board identify, map, and classify aggregate resources throughout California that contain regionally significant mineral resources. Designations of land areas are assigned by CDC and California Geological Survey following analysis of geologic reports and maps, field investigations, and using information about the locations of active sand and gravel mining operations. Local jurisdictions are required to enact planning procedures to guide mineral conservation and extraction at particular sites and to incorporate mineral resource management policies into their general plans.

The California Mineral Land Classification System represents the relationship between knowledge of mineral deposits and their economic characteristics (grade and size). The nomenclature used with the California Mineral Land Classification System is important in communicating mineral potential information in activities such as mineral land classification, and usage of these terms are incorporated into the criteria developed for assigning mineral resource zones. Lands classified MRZ-2 are areas that contain identified mineral resources. Areas classified as MRZ-2a or MRZ-2b (referred to hereafter as MRZ-2) are considered important mineral resource areas.

Local Laws, Regulations, and Policies

El Dorado County in general is considered a mining region capable of producing a wide variety of mineral resources. Metallic mineral deposits, including gold, are considered the most significant extractive mineral resources. Exhibit 5.9-6 shows the MRZ-2 areas within the county based on designated Mineral Resource (-MR) overlay areas. The -MR overlay areas are based on mineral resource mapping published in the mineral land classification reports referenced above. The majority of the county's important mineral resource deposits are concentrated in the western third of the county.

According to General Plan Policy 2.2.2.7, before authorizing any land uses within the -MR overlay zone that will threaten the potential to extract minerals in the affected area, the County shall prepare a statement specifying its reasons for considering approval of the proposed land use and shall provide for public and agency notice of such a statement consistent with the requirements of Public Resources Code section 2762. Furthermore, before finally

approving any such proposed land use, the County shall balance the mineral values of the threatened mineral resource area against the economic, social, or other values associated with the proposed alternative land uses. Where the affected minerals are of regional significance, the County shall consider the importance of these minerals to their market region as a whole and not just their importance to the County.

Where the affected minerals are of Statewide significance, the County shall consider the importance of these minerals to the State and Nation as a whole. The County may approve the alternative land use if it determines that the benefits of such uses outweigh the potential or certain loss of the affected mineral resources in the affected regional, Statewide, or national market.

Discussion: A substantial adverse effect on Mineral Resources would occur if the implementation of the project would:

- Result in obstruction of access to, and extraction of mineral resources classified MRZ-2, or result in land use compatibility conflicts with mineral extraction operations.

a-b. **Mineral Resources.** The Cool and Georgetown project areas are not mapped within a Mineral Resource Zone (Mineral Resource RZ) by the State of California Division of Mines and Geology or in the El Dorado County General Plan. A portion of the Garden Valley project area is located in the Mineral Resource RZ overlay per Exhibit 5.9-6 of the County's General Plan EIR. Although the portion of the project is located in the RZ overlay, the project would not threaten the potential to extract minerals in the affected area because the project involves only construction and minor ground disturbance in existing public ROW and would involve directional boring or trenching at depths of typically 18 inches. Therefore, the project's potential area of effect has already been impacted by previous roadway and ROW development; the project would not result in the obstruction of access to or extraction of mineral resources or result in land use compatibility conflict with mineral extraction operations. There would be **no impact** to mineral resources.

FINDING: The project would not affect the availability of mineral resources either directly or indirectly. The project would have no impact on Mineral Resources.

XII.NOISE. *Would the project result in:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
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?			**X**	
b. Generation of excessive groundborne vibration or groundborne noise levels?			**X**	
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			**X**	

Regulatory Setting:

No federal or state laws, regulations, or policies for construction-related noise and vibration that apply to the Proposed Project. However, the Federal Transit Administration (FTA) Guidelines for Construction Vibration in Transit Noise and Vibration Impact Assessment state that for evaluating daytime construction noise impacts in outdoor areas, a noise threshold of 90 dBA Leq and 100 dBA Leq should be used for residential and commercial/industrial areas, respectively.

For construction vibration impacts, the FTA guidelines use an annoyance threshold of 80 VdB for infrequent events (fewer than 30 vibration events per day) and a damage threshold of 0.12 inches per second (in/sec) PPV for buildings susceptible to vibration damage.

Discussion: A substantial adverse effect due to Noise would occur if the implementation of the project would:

- Result in short-term construction noise that creates noise exposures to surrounding noise sensitive land uses in excess of 60dBA CNEL;
- Result in long-term operational noise that creates noise exposures in excess of 60 dBA CNEL at the adjoining property line of a noise sensitive land use and the background noise level is increased by 3dBA, or more; or
- Results in noise levels inconsistent with the performance standards contained in Table 6-1 and Table 6-2 in the El Dorado County General Plan.

The project is located within three project areas that cover the unincorporated communities of Cool, Garden Valley, and Georgetown which are located east of State Route 49/Coloma road and north of State Route 193 in the northwestern portion of El Dorado County, California (see **Figure 1**). The proposed project construction and fiber optic routing would be entirely within existing public ROW along roads and highways within the County. The routes pass through existing residential, commercial, public facility, industrial and open space land uses (see **Figure 4**). The roadways in which the fiber optic cable will be installed are a source of existing transportation noise. The construction of the project would create a temporary increase in noise, centered around the entry pits, which are located 1000 to 2000 feet apart along the various project routes. Therefore, construction activities could affect sensitive receptors, such as residential uses.

County General Plan Policy 6.5.1.11 outlines standards for daytime construction and would apply to construction-related noise associated with the project. This policy limits construction to the hours of 7 a.m. and 7 p.m., Monday through Friday, and 8 a.m. and 5 p.m. on weekends, and on federally recognized holidays. General Plan Policy 6.5.1.11 notes that nighttime construction activities are allowed if it can be shown that nighttime construction activities would alleviate traffic congestion and safety hazards. Note that night time construction is not planned, and would only occur if required for safety reasons (to avoid traffic delays in a particular location).

a. **Noise Exposures:** Construction activities could increase noise levels temporarily in the vicinity of the project. Actual noise levels would depend on the type of construction equipment involved, distance to the source of the noise, time of day, and similar factors. However, these increases would be temporary. Construction activity would comply with noise standards for construction activities outlined in General Plan Policy 6.5.1.11. Given that the project contractor would adhere to applicable County construction-related noise standards, this impact is considered **less than significant**.

b. **Groundborne Vibration or Shaking:** Ground borne vibration or shaking is typically connected with construction techniques such as pile driving or blasting. Heavy equipment for excavation and compaction may also cause vibration. , dynamic compaction, The project would require minor excavation for trenching and directional boring entry pits. It is not expected to produce significant vibration or ground shaking, and construction would not be located near sensitive structures. Impacts would be **less than significant**.

c. **Airport Land Use Compatibility.** According to the El Dorado County Airport Land Use Compatibility Plan (El Dorado County ALUC 2012) a portion of the project site, along Main Street in the community of Georgetown, is within the Georgetown Airport Influence Area. However, the project is outside of the designated noise exposure zones according to the plan. The project does not propose new development of habitable structures. Therefore, the project would not expose people to excessive noise levels associated with the Georgetown Airport. The project impact would be **less than significant.**

FINDING: As conditioned, and with adherence to County Code, no significant direct or indirect impacts to noise levels are expected either directly or indirectly. For this Noise category, the thresholds of significance would not be exceeded.

XIII. POPULATION AND HOUSING. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
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)?			**X**	
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				**X**

Regulatory Setting:

No federal or state laws, regulations, or policies apply to population and housing and the proposed project.

Discussion: A substantial adverse effect on Population and Housing would occur if the implementation of the project would:

- Create substantial growth or concentration in population;
- Create a more substantial imbalance in the County's current jobs to housing ratio; or
- Conflict with adopted goals and policies set forth in applicable planning documents.

a. **Population Growth:** The proposed project does not include the construction of any new homes or businesses. Project construction would require construction personnel; however, these workers would be temporary. After construction, the project operations would not require on-site staff. As such, the proposed project would not directly result in population growth. While the improvement of the County's fiber optic infrastructure is an economic benefit to the County, it is not anticipated to result in significant, or unplanned, growth.

b. **Displacement of People or Housing:** The project site would occupy existing public ROW and no existing housing stock would be displaced by the proposed project; the project would not expand the existing public ROW and would not displace housing or people. **No impact** would occur.

FINDING: The project would not displace housing. There would be no potential for a significant impact due to substantial growth either directly or indirectly. For this Population and Housing category, the thresholds of significance would not be anticipated to be exceeded.

XIV. PUBLIC SERVICES. *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:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Fire protection?			**X**	
b. Police protection?				**X**
c. Schools?				**X**
d. Parks?				**X**
e. Other government services?				**X**

Regulatory Setting:

Federal Laws, Regulations, and Policies

California Fire Code

The California Fire Code (Title 24 CCR, Part 9) establishes minimum requirements to safeguard public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings. Chapter 33 of CCR contains requirements for fire safety during construction and demolition.

Discussion: A substantial adverse effect on Public Services would occur if the implementation of the project would:

- Substantially increase or expand the demand for fire protection and emergency medical services without increasing staffing and equipment to meet the Department's/District's goal of 1.5 firefighters per 1,000 residents and 2 firefighters per 1,000 residents, respectively;
- Substantially increase or expand the demand for public law enforcement protection without increasing staffing and equipment to maintain the Sheriff's Department goal of one sworn officer per 1,000 residents;
- Substantially increase the public school student population exceeding current school capacity without also including provisions to adequately accommodate the increased demand in services;
- Place a demand for library services in excess of available resources;
- Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
- Be inconsistent with County adopted goals, objectives or policies.

a. **Fire Protection:** El Dorado County Fire District provides fire protection services and emergency services to the project area. The project areas are located in a developed part of the County that currently receives fire service. Each of the three project areas (within the communities of Cool, Garden Valley, and Georgetown) have fire stations along the proposed underground fiber optic cable routing. These stations would be able to provide fire protection services to respond to any potential incidents that may occur at the site during construction. After construction, the project would not require fire protection services, as the

project is sub-surface and does not include new structures or on-site employees. Therefore, the project would not result in the need for new fire personnel or facilities; services can adequately be provided by existing personnel out of existing facilities. Therefore, this impact is **less than significant**.

b. **Police Protection:** Law enforcement services for the project area are provided by the El Dorado County Sheriff. Development of the project site could potentially result in a need for police protection services to respond to any potential incidents that may occur at the site during construction. However, after construction, the project would not require law enforcement services because it would be operated remotely and does not include new structures or aboveground components. The project site is located in a developed part of the County that currently receives police service. Therefore, the project would not result in the need for new police personnel or facilities; services can adequately be provided by existing personnel out of existing facilities. Therefore, there would be **no impact.**

c-e. **Schools, Parks, and Government Services:** There are no components of operating the proposed project that would include any permanent population-related increases that would substantially contribute to increased demand on schools, parks, or other governmental services that could, in tum, result in the need for new or expanded facilities. There would be **no impact** to these services.

FINDING: The project would not result in an increase in demand for public services.

XV. RECREATION.	Potentially Significant Impact	Less than Significant with Mitigation	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?				**X**
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?				**X**

Regulatory Setting:

National Trails System

The National Trails System Act of 1968 authorized The National Trails System (NTS) in order to provide additional outdoor recreation opportunities and to promote the preservation of access to the outdoor areas and historic resources of the nation. The Appalachian and Pacific Crest National Scenic Trails were the first two components, and the System has grown to include 20 national trails.

The National Trails System includes four classes of trails:

1. National Scenic Trails (NST) provide outdoor recreation and the conservation and enjoyment of significant scenic, historic, natural, or cultural qualities. The Pacific Coast Trail falls under this category. The PCT passes through the Desolation Wilderness area along the western plan area boundary.
2. National Historic Trails (NHT) follow travel routes of national historic significance. The National Park Service has designated two National Historic Trail (NHT) alignments that pass through El Dorado County, the California National Historic Trail and the Pony Express National Historic Trail. The California Historic Trail is a route of approximately 5,700 miles including multiple routes and cutoffs, extending from Independence and Saint Joseph, Missouri, and Council Bluffs, Iowa, to various points in California and Oregon. The Pony Express NHT commemorates the route used to relay mail via horseback from Missouri to California before the advent of the telegraph.
3. National Recreation Trails (NRT) are in, or reasonably accessible to, urban areas on federal, state, or private lands. In El Dorado County there are 5 NRTs.

State Laws, Regulations, and Policies

The California Parklands Act

The California Parklands Act of 1980 (Public Resources Code Section 5096.141-5096.143) recognizes the public interest for the state to acquire, develop, and restore areas for recreation and to aid local governments to do the same. The California Parklands Act also identifies the necessity of local agencies to exercise vigilance to see that the parks, recreation areas, and recreational facilities they now have are not lost to other uses.

The California state legislature approved the California Recreational Trail Act of 1974 (Public Resources Code Section 2070-5077.8) requiring that the Department of Parks and Recreation prepare a comprehensive plan for California trails. The California Recreational Trails Plan is produced for all California agencies and recreation

providers that manage trails. The Plan includes information on the benefits of trails, how to acquire funding, effective stewardship, and how to encourage cooperation among different trail users.

The 1975 Quimby Act (California Government Code Section 66477) requires residential subdivision developers to help mitigate the impacts of property improvements by requiring them to set aside land, donate conservation easements, or pay fees for park improvements. The Quimby Act gave authority for passage of land dedication ordinances to cities and counties for parkland dedication or in-lieu fees paid to the local jurisdiction. Quimby exactions must be roughly proportional and closely tied (nexus) to a project's impacts as identified through traffic studies required by CEQA. The exactions only apply to the acquisition of new parkland; they do not apply to the physical development of new park facilities or associated operations and maintenance costs.

The County implements the Quimby Act through §16.12.090 of the County Code. The County Code sets standards for the acquisition of land for parks and recreational purposes, or payments of fees in lieu thereof, on any land subdivision. Other projects, such as ministerial residential or commercial development, could contribute to the demand for park and recreation facilities without providing land or funding for such facilities.

Local Laws, Regulations, and Policies

The 2004 El Dorado County General Plan Parks and Recreation Element establishes goals and policies that address needs for the provision and maintenance of parks and recreation facilities in the county, with a focus on providing recreational opportunities and facilities on a regional scale, securing adequate funding sources, and increasing tourism and recreation-based businesses. The Recreation Element describes the need for 1.5 acres of regional parkland, 1.5 acres of community parkland, and 2 acres of neighborhood parkland per 1,000 residents. Another 95 acres of park land are needed to meet the General Plan guidelines.

Discussion: A substantial adverse effect on Recreational Resources would occur if the implementation of the project would:

- Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
- Substantially increase the use of neighborhood or regional parks in the area such that substantial physical deterioration of the facility would occur.

a-b. **Parks and Recreational Services:** The project does not include any increase in permanent population that would contribute to increased demand on recreation facilities or contribute to increased use of existing facilities such that physical deterioration of the facility would occur. There would be **no impact** to recreation.

FINDING: No significant impacts to open space or park facilities would result as part of the project. For this Recreation category, impacts would be less than significant.

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

Regulatory Setting:

Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies apply to transportation/traffic and the proposed project.

State Laws, Regulations, and Policies

Caltrans manages the state highway system and ramp interchange intersections. This state agency is also responsible for highway, bridge, and rail transportation planning, construction, and maintenance.

SB 743

Senate Bill 743 (Steinberg, 2013), codified in Public Resources Code Section 21099, directed the Governor's Office of Planning and Development (OPR) to develop new CEQA Guidelines to replace LOS with metrics that, in the State's determination, more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions. In 2018, the Section 15064.3 was added to the CEQA Guidelines, which identifies vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts on the environment. Effective July 1, 2020, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment.

Local Laws, Regulations, and Policies

The Board of Supervisors approved Resolution 1451-2020 on October 6, 2020 to address the change from level of service to VMT under CEQA. Resolution 1451-2020 incorporates the recommendations contained in the Governor's Office of Planning and Research's *Technical Advisory on Evaluation Transportation Impacts in CEQA* (Technical Advisory) (OPR 2018) into the analysis of transportation impacts for land use projects.

Discussion: The proposed project would generate some short-term vehicle trips related to construction. Project operations would not directly result in new vehicle trips. By increasing the opportunity for remote work in the County's rural areas, the project may have a beneficial impact by indirectly lowering VMT.

a. **Circulation System:** The proposed project consists of the installation of underground fiber optic cables in existing public ROW. The project would not alter transportation facilities or increase vehicle trips to and from the project areas. The project, which does not induce population growth or alter transportation facilities, would not conflict with any programs, plans, ordinances, or policies addressing the circulation system. The project would also be consistent with transportation policies for non-vehicular traffic. There would be **no impact** associated with transportation policy consistency.

b. **Vehicle Miles Travelled (VMT):** The OPR Technical Advisory does not consider temporary construction traffic as a significant transportation impact. Furthermore, the Technical Advisory provides a screening criterion that could be used to determine if VMT analysis is warranted for small projects, which are defined as projects that would generate fewer than 110 trips per day and may generally be assumed to cause a less-than-significant transportation impacts.

   The project would generate temporary construction trips, less than the threshold of 110 trips per day. The project would not conflict or be inconsistent with CEQA Guidelines Sections 15064.3(b); impacts would be **less than significant.**

c. **Design Hazards:** The proposed project does not include any geometric design features such as sharp curves or dangerous intersections and would not involve any new or incompatible use. **No impact** would occur.

d. **Emergency Access:** The project would be to install underground fiber optic cables within the existing public ROW. The project may require partial road closures (closing or narrow a lane for the entry pits ever). Total road closures are not anticipated, and appropriate traffic controls would be maintained. Impacts would be **less than significant**.

FINDING: The project would not conflict with County or state policies regarding transportation impacts. For this Transportation/Traffic category, the thresholds of significance would not be exceeded, and impacts would be less than significant.

XVII. TRIBAL CULTURAL RESOURCES. *Would the project:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
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:		**X**		
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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				

Regulatory Setting:

Federal Laws, Regulations, and Policies

No federal laws, regulations, or policies apply to Tribal Cultural Resources (TCRs) and the Proposed Project.

State Laws, Regulations, and Policies

Assembly Bill (AB) 52

AB 52, which was approved in September 2014 and effective on July 1, 2015, requires that CEQA lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if so requested by the tribe. The bill, chaptered in CEQA Section 21084.2, also specifies that a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment.

Defined in Section 21074(a) of the Public Resources Code, Tribal Cultural Resources (TCRs) are:

1. Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe that are either of the following:
    a. Included or determined to be eligible for inclusion in the California Register of Historical Resources; or
    b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2. 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

TCRs are further defined under Section 21074 as follows:

c. A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and
d. A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a TCR if it conforms with the criteria of subdivision (a).

Mitigation measures for TCRs must be developed in consultation with the affected California Native American tribe pursuant to newly chaptered Section 21080.3.2, or according to Section 21084.3. Section 21084.3 identifies mitigation measures that include avoidance and preservation of TCRs and treating TRCs with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource.

Discussion:

In general, significant impacts are those that diminish the integrity, research potential, or other characteristics that make a TCR significant or important. To be considered a TCR, a resource must be either: (1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or: (2) a resource that the lead agency chooses, in its discretion, to treat as a TCR and meets the criteria for listing in the state register of historic resources pursuant to the criteria set forth in Public Resources Code Section 5024.1(c). A substantial adverse change to a TCR would occur if the implementation of the project would:

- Disrupt, alter, or adversely affect a TCR such that the significance of the resource would be materially impaired.

a. **Tribal Cultural Resources.** As discussed in Section V, Cultural Resources, a records search and pedestrian survey did not identify cultural resources within the area of potential effects. The NAHC was contacted by Dudek staff on July 2, 2021, to request a search of its Sacred Lands File. The NAHC responded on July 24, 2021, indicating that no Native American resources on file with the NAHC fall within the project APE. The County contacted Native American tribes that have requested notice, pursuant to AB 52. The United Auburn Indian Community (UAIC) requested consultation.

   UAIC conducted a records search for the identification of TCRs for this project which included a review of pertinent literature and historic maps, and a records search using UAIC's Tribal Historic Information System (THRIS). UAIC's THRIS database is composed of UAIC's areas of oral history, ethnographic history, and places of cultural and religious significance, including UAIC Sacred Lands that are submitted to the Native American Heritage Commission (NAHC). The THRIS resources shown in this region also include previously recorded indigenous resources identified through the California Historic Resources Information System Center (CHRIS) as well as historic resources and survey data.

   As a result of this consultation between UAIC and the County, several areas of potential sensitivity were identified within the project area. Mitigation Measure TCR-1 has been added to ensure avoidance of sensitive areas identified by UAIC. Where full avoidance of surface disturbance is not feasible, TCR-2 would apply.

   Mitigation Measure TCR-1: Prior to approval of final design by the County, project plans shall be submitted to the UAIC Tribal Historic Preservation Office (THPO) for confidential review. The THPO shall identify potential conflicts with areas of cultural sensitivity. Directional boring entry pits (which also serve as future service faults and splice points) shall be relocated to avoid the identified sensitive areas. If open trenching is required, TCR-2 shall apply.

   Mitigation Measure TCR-2: Should avoidance per TCR-1 be infeasible, or if open trenching is necessary, construction monitoring shall be required within sensitive areas (as identified per TCR-2). A qualified archaeologist and Native American representative shall monitor initial grading, subsurface disturbances, or other ground-disturbing activities within identified areas of cultural sensitivity. Areas of elevated sensitivity will be identified by a qualified archaeologist in consultation with the lead agency and consulting tribes prior to initiation of construction. Native American monitoring should be inclusive of those traditionally culturally

affiliated tribes and related tribal cultural values expressed through the process of government to government consultation. Prior notice of construction activities requiring monitoring shall be provided as early as possible, but not less than 48 hours.

General responsibilities of the archaeologist monitor shall include monitoring construction, preparation of daily monitoring logs, reporting and assessing inadvertent discoveries, communication with on-site Native American monitors and contractors, guiding installation and tracking maintenance of environmentally sensitive area marking. The archaeological monitor and Native American monitor shall have the authority to temporarily halt work to inspect areas for potential cultural material or deposits. In the event that unanticipated -archaeological deposits or features are exposed during construction activities, all construction work occurring within 100 feet of the find shall immediately stop until the archaeological principal investigator can evaluate the significance of the find and determine whether or not additional study is warranted. The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeological principal investigator. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment.

The potential for avoidance should be the primary consideration of this initial process. Significance of the find shall be assessed as outlined by CEQA (14 CCR 15064.5[f]; PRC Section 21082). If the archaeological principal investigator observes the discovery to be potentially significant under CEQA or Section 106 of the NHPA, additional efforts would apply. Pertinent management strategies in order of preference may include: 1) avoidance and/or other methods of preservation in place; 2) developing a treatment plan in consultation with the lead agency that outlines appropriate archaeological evaluation methods, handling of recovered archaeological material including requirements for curation, reburial, and-or repatriation, and other pertinent resource-specific management strategies; 3) if resource is confirmed significant, and preservation in place remains infeasible, developing and implementing a data recovery plan in consultation with the lead agency. Should an identified archaeological resource be a possible Tribal Cultural Resource, or otherwise Native American in origin, consulting tribes will be notified and extended the opportunity to review and provide input on the management strategies throughout this process. Permanent curation of TCRs will not take place unless approved in writing by UAIC or by the California Native American Tribe that is traditionally and culturally affiliated with the project area.

FINDING: With implementation of mitigation measures TCR-1, TCR-2, and CUL-1, potential impacts to TCRs would be reduced to less than significant. Impacts to the Tribal Cultural Resources category would be less than significant.

XVIII. UTILITIES AND SERVICE SYSTEMS. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				**X**
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?				**X**
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?				**X**
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?			**X**	
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			**X**	

Regulatory Setting:
Federal Laws, Regulations, and Policies

Energy Policy Act of 2005

The Energy Policy Act of 2005, intended to reduce reliance on fossil fuels, provides loan guarantees or tax credits for entities that develop or use fuel-efficient and/or energy efficient technologies (USEPA 2022). The act also increases the amount of biofuel that must be mixed with gasoline sold in the United States.

State Laws, Regulations, and Policies

California Integrated Waste Management Act of 1989

The California Integrated Waste Management Act of 1989 (Public Resources Code, Division 30) requires all California cities and counties to implement programs to reduce, recycle, and compost wastes by at least 50% by 2000 (Public Resources Code Section 41780). The state, acting through the California Integrated Waste Management Board (CIWMB), determines compliance with this mandate. Per-capita disposal rates are used to determine whether a jurisdiction's efforts are meeting the intent of the act.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act of 1991 (Public Resources Code Sections 42900-42911) requires that all development projects applying for building permits include adequate, accessible areas for collecting and loading recyclable materials.

California Integrated Energy Policy

Senate Bill 1389, passed in 2002, requires the California Energy Commission (CEC) to prepare an Integrated Energy Policy Report for the governor and legislature every 2 years. The report analyzes data and provides policy recommendations on trends and issues concerning electricity and natural gas, transportation, energy efficiency, renewable energy, and public interest energy research. The 2014 Draft Integrated Energy Policy Report Update includes policy recommendations, such as increasing investments in electric vehicle charging infrastructure at workplaces, multi-unit dwellings, and public sites.

Title 24–Building Energy Efficiency Standards

Title 24 Building Energy Efficiency Standards of the California Building Code are intended to ensure that building construction, system design, and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The standards are updated on an approximately 3-year cycle. The 2013 standards went into effect on July 1, 2014.

Urban Water Management Planning Act

California Water Code Sections 10610 *et seq.* requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per year (AFY), prepare an urban water management plan (UWMP).

Other Standards and Guidelines

Leadership in Energy & Environmental Design

Leadership in Energy & Environmental Design (LEED) is a green building certification program, operated by the U.S. Green Building Council (USGBC) that recognizes energy efficient and/or environmentally friendly (green) components of building design. To receive LEED certification, a building project must satisfy prerequisites and earn points related to different aspects of green building and environmental design (USGBC, 2015). The four levels of LEED certification are related to the number of points a project earns: (1) certified (40–49 points), (2) silver (50–59 points), (3) gold (60–79 points), and (4) platinum (80+ points) (USGBC, 2015). Points or credits may be obtained for various criteria, such as indoor and outdoor water use reduction, and construction and demolition (C&D) waste management planning. Indoor water use reduction entails reducing consumption of building fixtures and fittings by at least 20% from the calculated baseline and requires all newly installed toilets, urinals, private lavatory faucets, and showerheads that are eligible for labeling to be WaterSense labeled. Outdoor water use reduction may be achieved by showing that the landscape does not require a permanent irrigation system beyond a maximum 2.0-year establishment period, or by reducing the project's landscape water requirement by at least 30% from the calculated baseline for the site's peak watering month. C&D waste management points may be obtained by diverting at least 50% of C&D material and three material streams, or generating less than 2.5 pounds of construction waste per square foot of the building's floor area.

Discussion: A substantial adverse effect on Utilities and Service Systems would occur if the implementation of the project would:

- Breach published national, state, or local standards relating to solid waste or litter control;
- Substantially increase the demand for potable water in excess of available supplies or distribution capacity without also including provisions to adequately accommodate the increased demand, or is unable to provide an adequate on-site water supply, including treatment, storage and distribution;

- Substantially increase the demand for the public collection, treatment, and disposal of wastewater without also including provisions to adequately accommodate the increased demand, or is unable to provide for adequate on-site wastewater system; or
- Result in demand for expansion of power or telecommunications service facilities without also including provisions to adequately accommodate the increased or expanded demand.

a. **Utility Requirements**: The project is a telecommunication service system project. The project involves the installation of underground fiber optic cables within existing public ROW to improve telecommunications and broadband network services within El Dorado County; environmental impacts that would occur as a result of the project are analyzed throughout this IS.

The project would not increase the number of people or structures in the project areas and would not be connected to water, wastewater treatment, electric power, or natural gas facilities. Storm water flow from roadways would be captured in roadside ditches or existing storm drain systems. The project proposes installation of fiber optic cables typically 18 inches below grade within existing public ROW. After the cables are installed, the ROW surface would be returned to its existing condition and therefore the project would not introduce altered storm water flows or drainage patterns. For these reasons, the project would not result in the relocation or construction of new or expanded facilities for those utilities and services. There would be **no impact**.

b-c. **Water Supplies and Wastewater Treatment:** The project would not increase the use of water on the project site or within the project areas; the project would not generate wastewater. No additional water supplies or wastewater treatment is necessary and therefore the project would have **no impact**.

d-e. **Solid Waste Disposal and Requirements:** The project would not generate operational solid waste. Project construction may require some disposal of soil from the boring process. If disposal at a landfill is required, El Dorado Disposal distributes municipal solid waste to Forward Landfill in Stockton and Kiefer Landfill in Sacramento. Pursuant to El Dorado County Environmental Management Solid Waste Division staff, both facilities have sufficient capacity to serve the County. Recyclable materials are distributed to a facility in Benicia and green wastes are sent to a processing facility in Sacramento.

Per the discussion above in Section A), there would be no additional increase in demand for utilities from to the operation of the project. There would be no solid waste generated from the operations of the project because the project site would not be inhabited and does not include aboveground buildings or structures. The project would therefore not impair solid waste reduction goals and would comply with regulations related to solid waste. For these reasons, impacts related to solid waste would be **less significant**.

FINDING: No significant utility and service system impacts would be expected with the project, either directly or indirectly. For this Utilities and Service Systems category, the thresholds of significance would not be exceeded.

IXX. WILDFIRE. *Would the project:*				
	Potentially Significant Impact	Less than Significant with Mitigation	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?			**X**	
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?			**X**	
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?			**X**	
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?			**X**	

Discussion:

a-d. The project areas consist of gently sloping valleys and hillsides; the project areas are primarily characterized by urban and rural residential development within oak woodland habitat. Where present within the project areas, vegetation consists of non-native annual grasses and forbs. According to the CAL FIRE (CAL FIRE 2007) Fire Hazard Severity Zone map, the project areas are located in a State Responsibility Area (SRA), within designated high or very high hazard severity zones. However, the project involves only the installation of belowground fiber optic cables and would not increase the number of people or structures in the project areas.

Implementation of the proposed project would not alter any roadways, access points, or otherwise degrade traffic operations and access to the area in such a way as to interfere with an emergency response or evacuation plan. There are no proposed residences associated with the project, and project operations would not notably increase the risk of wildfire to the project areas. The proposed project would not include or require the installation or maintenance of additional infrastructure that would exacerbate fire risk. As such, implementation of the proposed project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

The project is also required to adhere to all fire prevention and protection requirements and regulations of El Dorado County including the El Dorado County Fire Hazard Ordinance and the Uniform Fire Code, as

applicable. Pertinent measures include, but are not limited to, the use of equipment with spark arrestors and non-sparking tools during project construction.

The potential for the proposed project to expose people or structures to significant risks related post-fire landslide would be negligible because the project involves no aboveground components such as new buildings or structures. The project proposes installation of fiber optic cables typically 18 inches below grade within existing public ROW. After the cables are installed, the ROW surface would be returned to its existing condition and therefore the project would not introduce new risk factors involving potential post-fire downslope flooding, landslides, slope instability or drainage changes. Project impacts regarding wildfire would be **less than significant**.

FINDING: As conditioned and with adherence to El Dorado County Code of Ordinances (County Code), for this Wildfire category, impacts would be anticipated to be less than significant.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE. *Does the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?			**X**	
b. 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)?			**X**	
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			**X**	

Discussion:

a. No substantial evidence contained in the project record has been found that would indicate that this project would have the potential to significantly degrade the quality of the environment. The project would not have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of California history, pre-history, or tribal cultural resources. Potential impacts to biological, cultural, and tribal cultural resources would be avoided or substantially reduced through the implementation of feasible mitigation measures. Any impacts from the project would be **less than significant**.

b. Cumulative impacts are defined in Section 15355 of the California Environmental Quality Act (CEQA) Guidelines as *two or more individual effects, which when considered together, would be considerable or which would compound or increase other environmental impacts.*

No other infrastructure projects, including utilities and roadway improvements, within the project alignment have been identified that would have the potential to contribute to cumulative effects.

c. As outlined and discussed in this document, as conditioned and with compliance with County Codes, this project would be anticipated to have a less than significant project-related environmental effect which would cause substantial adverse effects on human beings, either directly or indirectly. Based on the analysis in this study, it has been determined that the project would have less than significant cumulative impacts. Based on the discussion contained in this document, no potentially significant impacts to human beings are anticipated to occur with respect to potential project impacts. The project would not include any physical changes to the site, and any future development or physical changes would require review and permitting through the County. Adherence to these standard conditions would be expected to reduce potential impacts to **less than significant**.

FINDINGS: It has been determined that the proposed project would not result in significant environmental impacts that would require the preparation of an Environmental Impact Report. The project would not exceed applicable environmental standards, nor significantly contribute to cumulative environmental impacts.

INITIAL STUDY ATTACHMENTS AND APPENDICES

Attachment 1.....Project Figures
.....Figure 1: Regional Location
.....Figure 2: Proposed Alignment
.....Figure 3: Aquatic Resources
.....Figure 4: Land Use Classifications

Attachment 2.....Mitigation Monitoring and Reporting Program

Appendix A.....Air Quality/GHG Data

Appendix B.....Pre-construction Botanical Survey

Appendix C.....Special Status Species Potential to Occur

Appendix D.....Archaeological Resources Inventory Report

SUPPORTING INFORMATION SOURCE LIST

CAL FIRE (California Department of Forestry and Fire Protection). 2007. *Fire Hazard Severity Zones Map*. Accessed January 27, 2022 on https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/.

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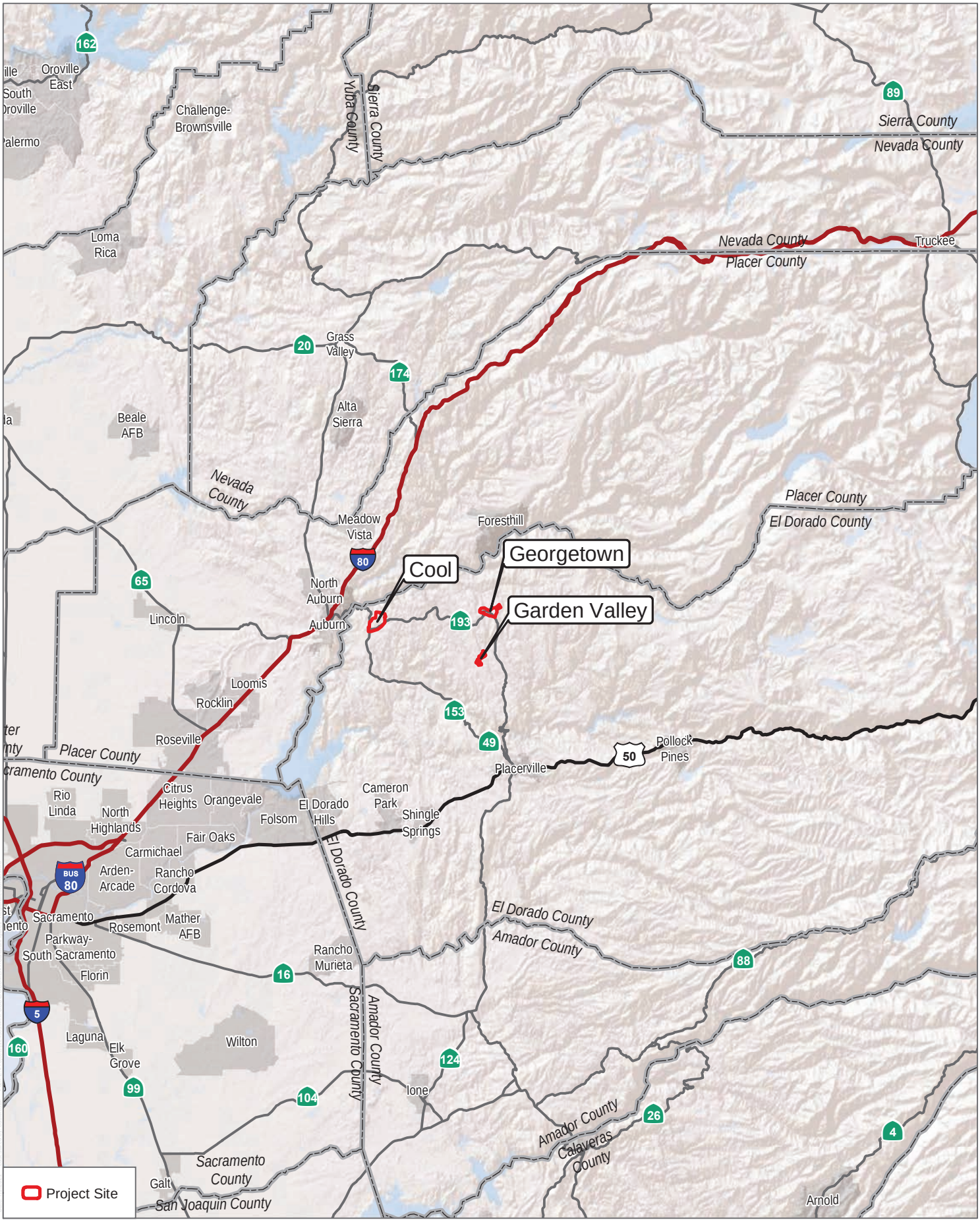


SOURCE: ESRI 2021

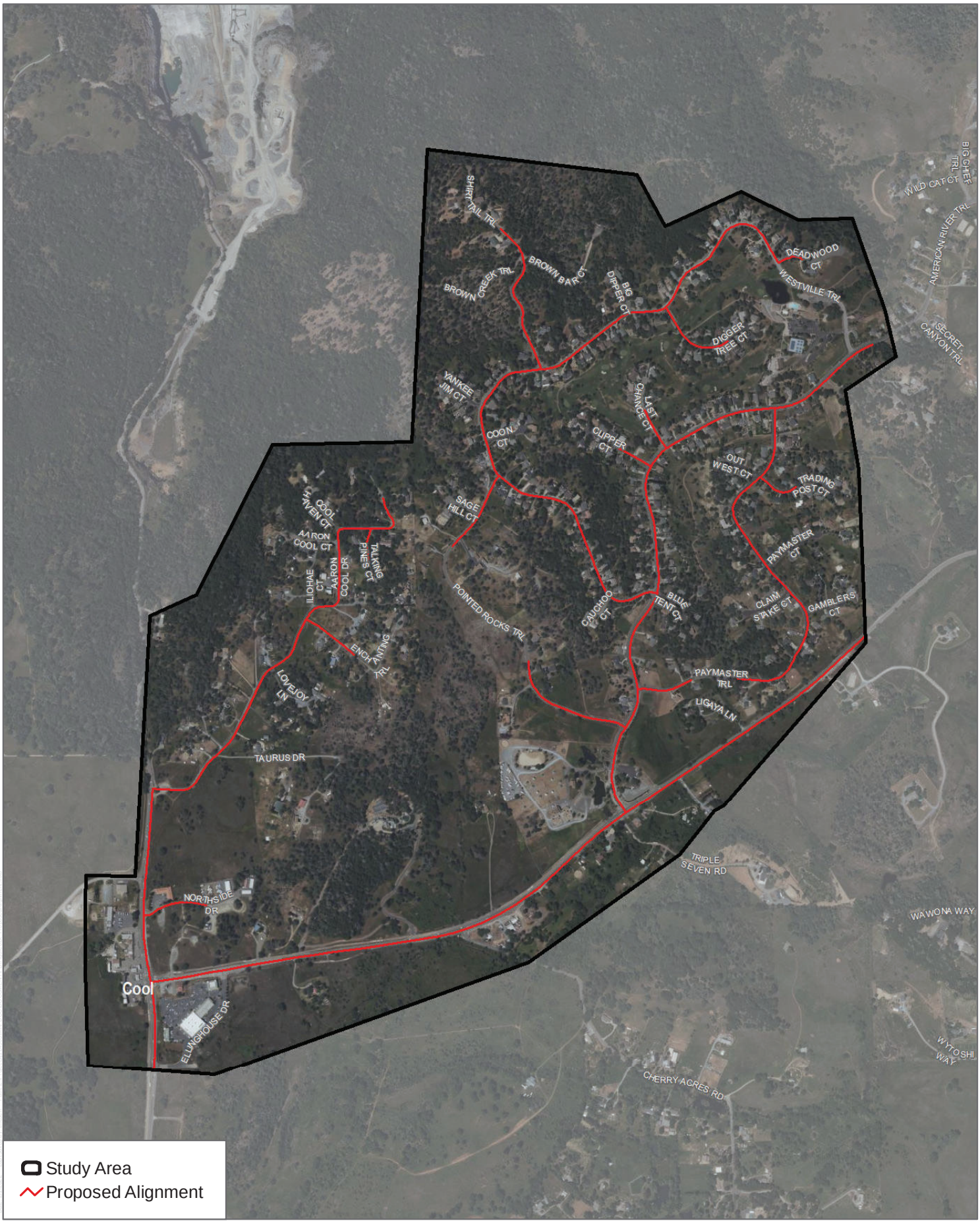
DUDEK

0 26,250 52,500 Feet

FIGURE 1

Regional Map

El Dorado Fiber Optics



SOURCE: El Dorado County 2018, Bing Maps 2022

DUDEK

0 550 1,100 Feet

FIGURE 2A

Proposed Alignment

El Dorado Fiber Optics

SOURCE: El Dorado County 2018, Bing Maps 2022

DUDEK

0 370 740 Feet

FIGURE 2B

Proposed Alignment

El Dorado Fiber Optics

SOURCE: El Dorado County 2018, Bing Maps 2022

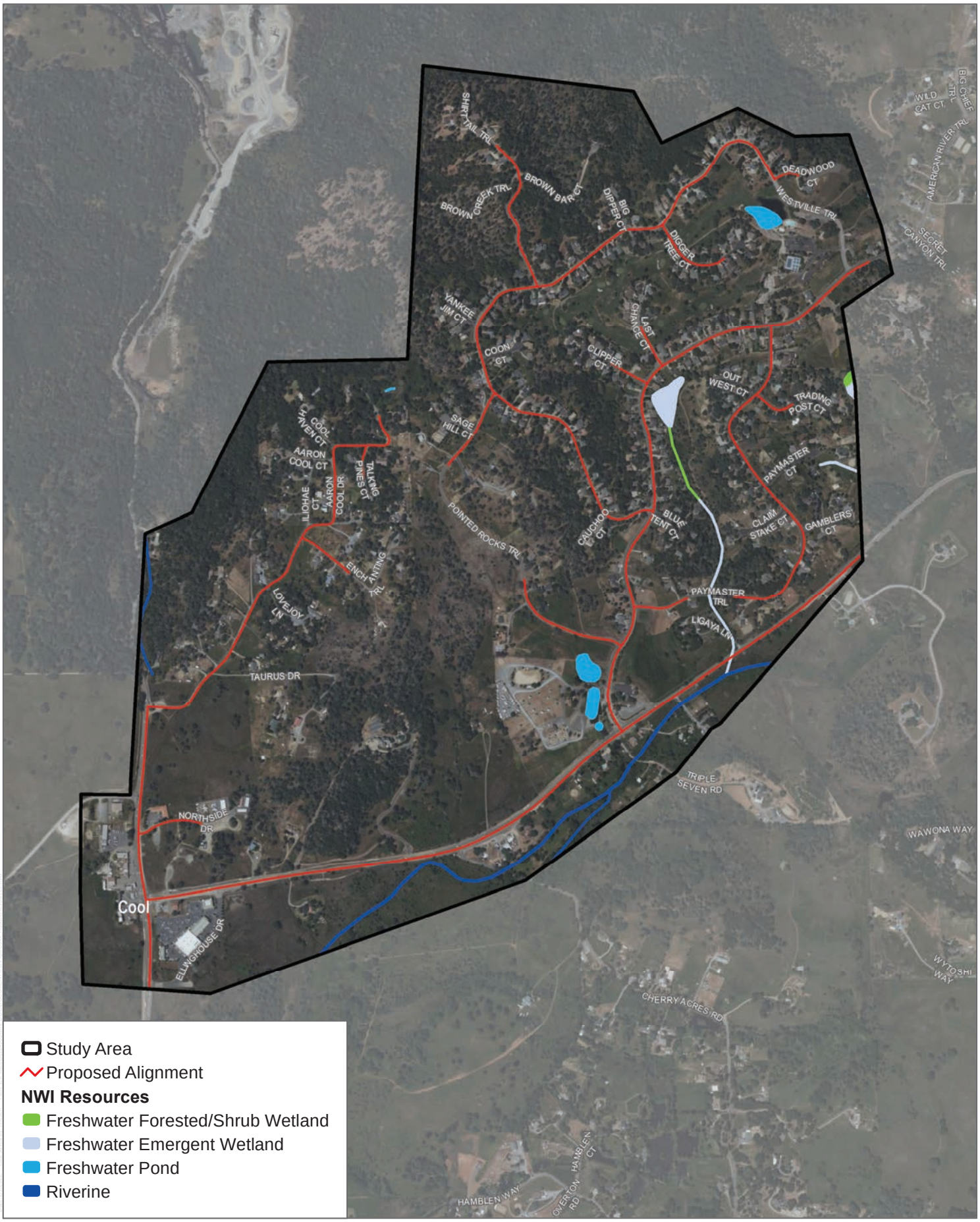
DUDEK

0 650 1,300 Feet

FIGURE 2C

Proposed Alignment

El Dorado Fiber Optics



SOURCE: El Dorado County 2018, USFWS 2021, Bing Maps 2022

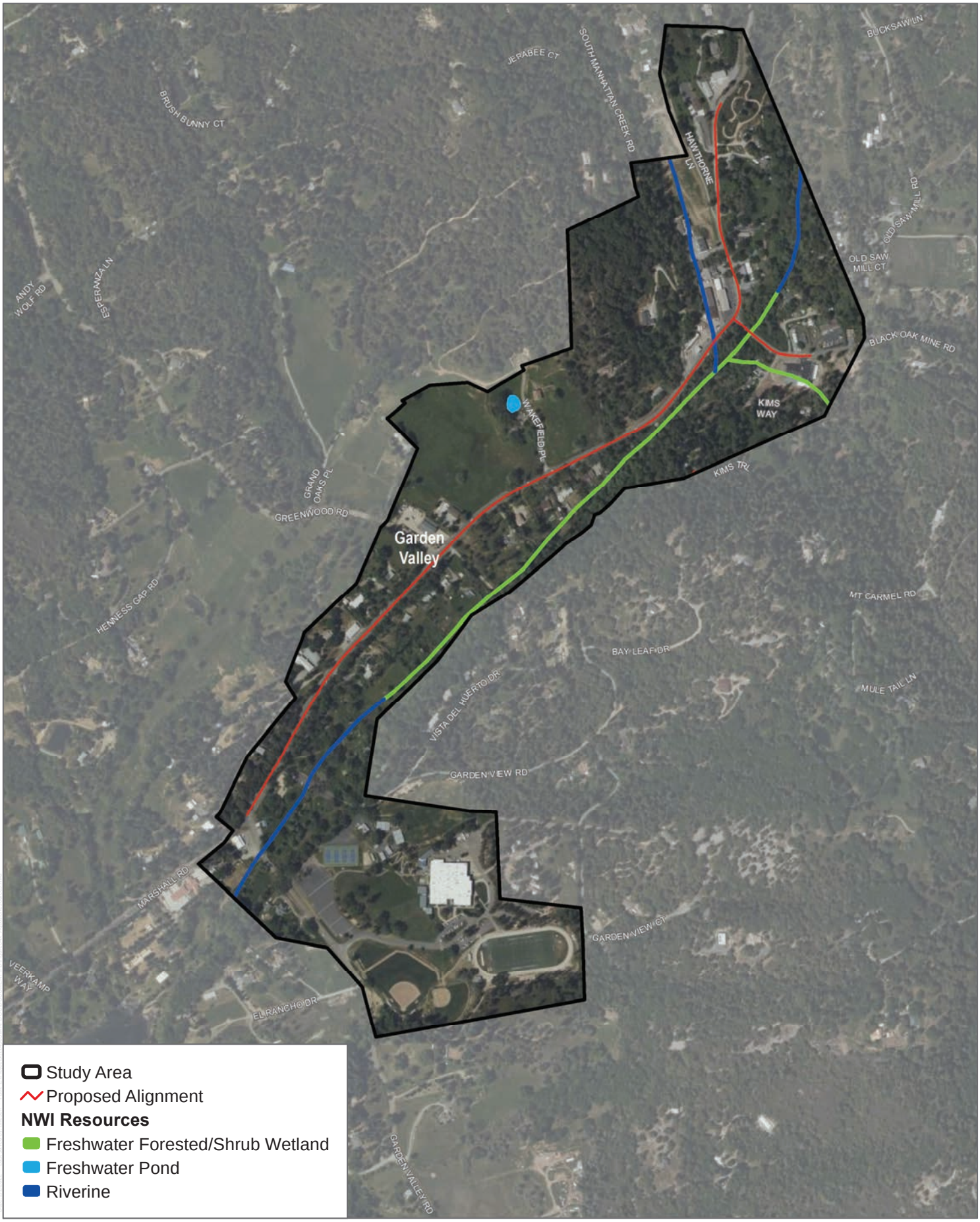
DUDEK

0 550 1,100 Feet

FIGURE 3A

Aquatic Resources

El Dorado Fiber Optics



SOURCE: El Dorado County 2018, USFWS 2021, Bing Maps 2022

DUDEK

FIGURE **3B**

Aquatic Resources

El Dorado Fiber Optics

SOURCE: El Dorado County 2018, USFWS 2021, Bing Maps 2022

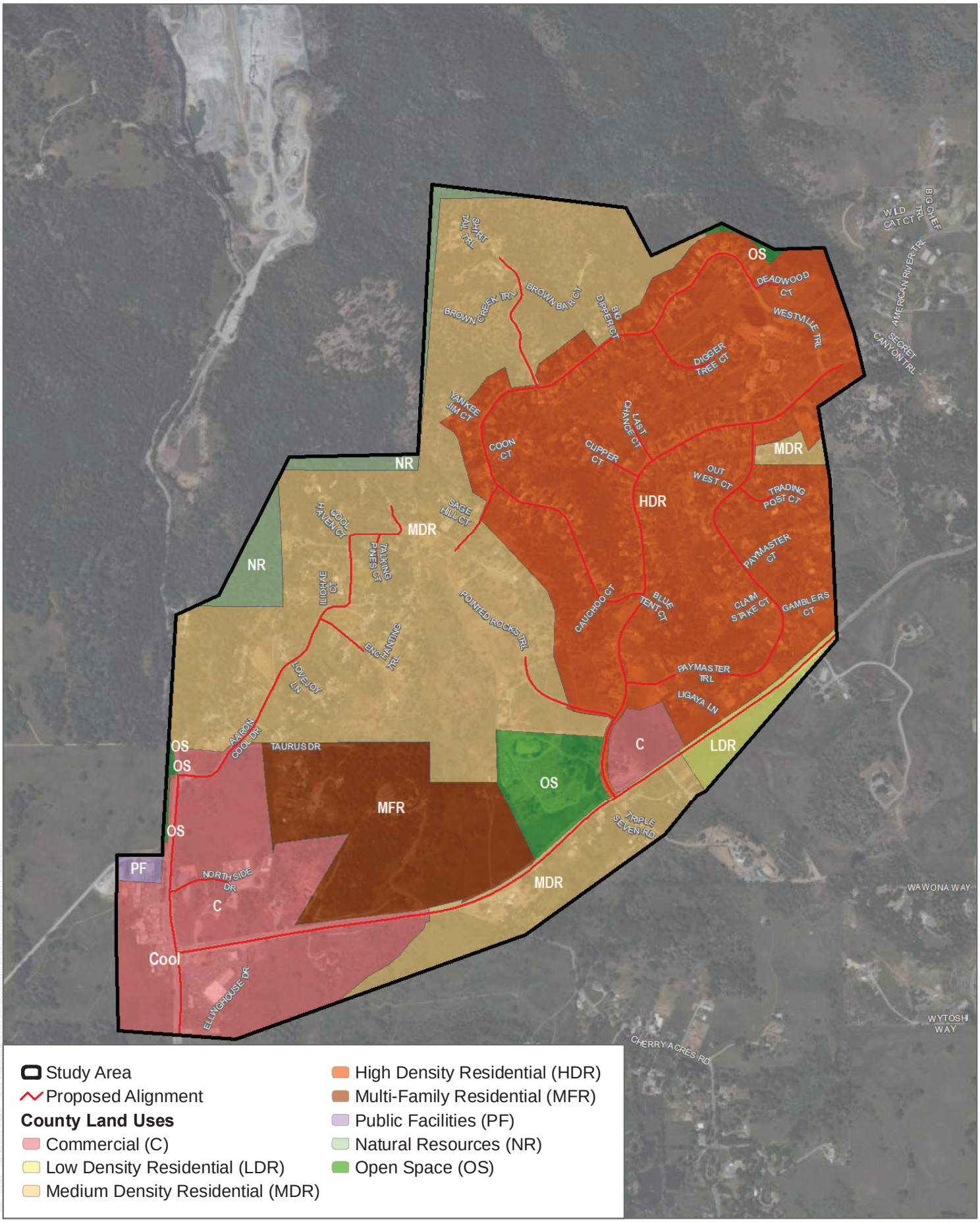
DUDEK

0 650 1,300 Feet

FIGURE 3C

Aquatic Resources

El Dorado Fiber Optics



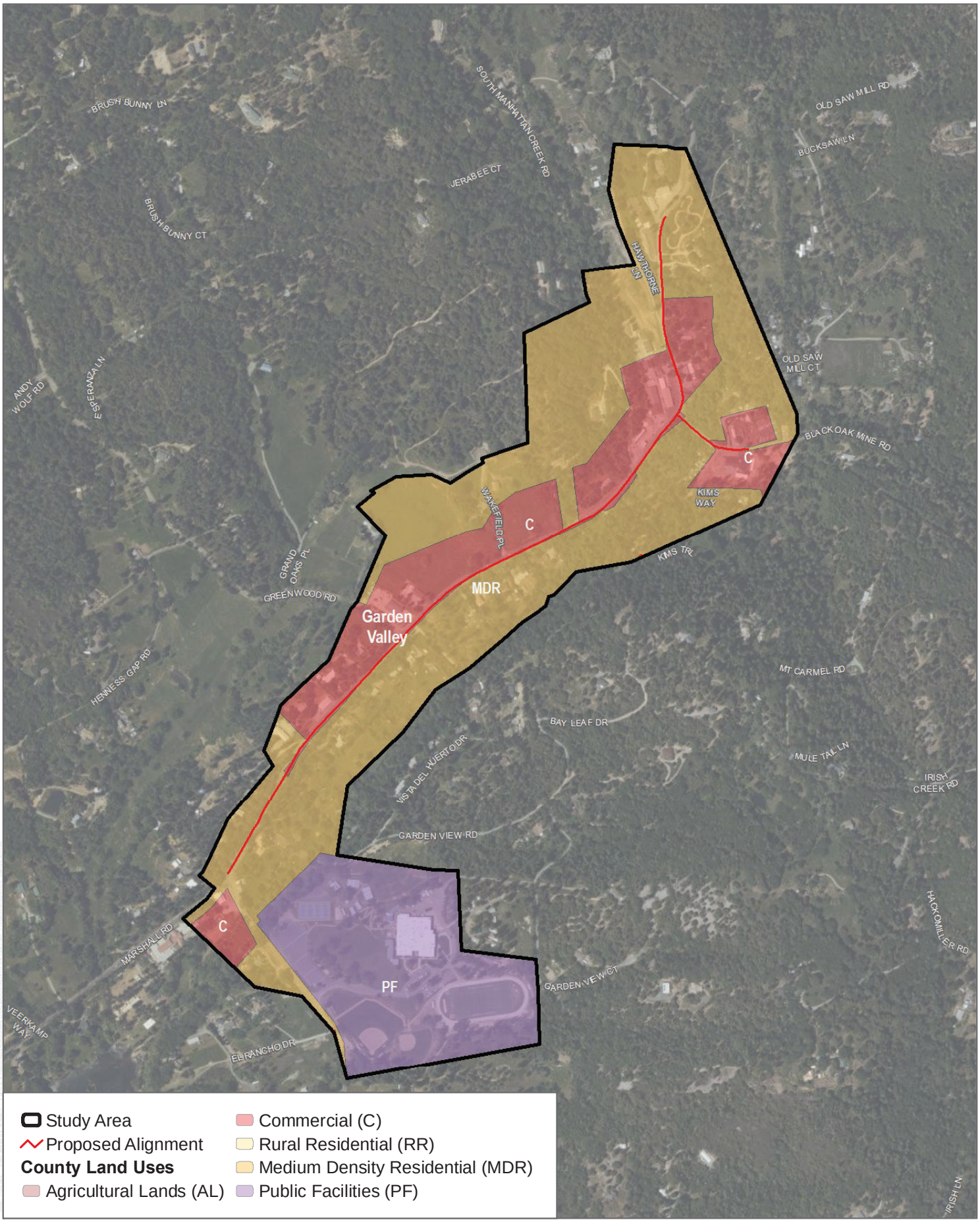
SOURCE: El Dorado County 2018, Bing Maps 2022

FIGURE **4**.A

Proposed Alignment Land Uses

El Dorado Fiber Optics

DUDEK



SOURCE: El Dorado County 2018, Bing Maps 2022

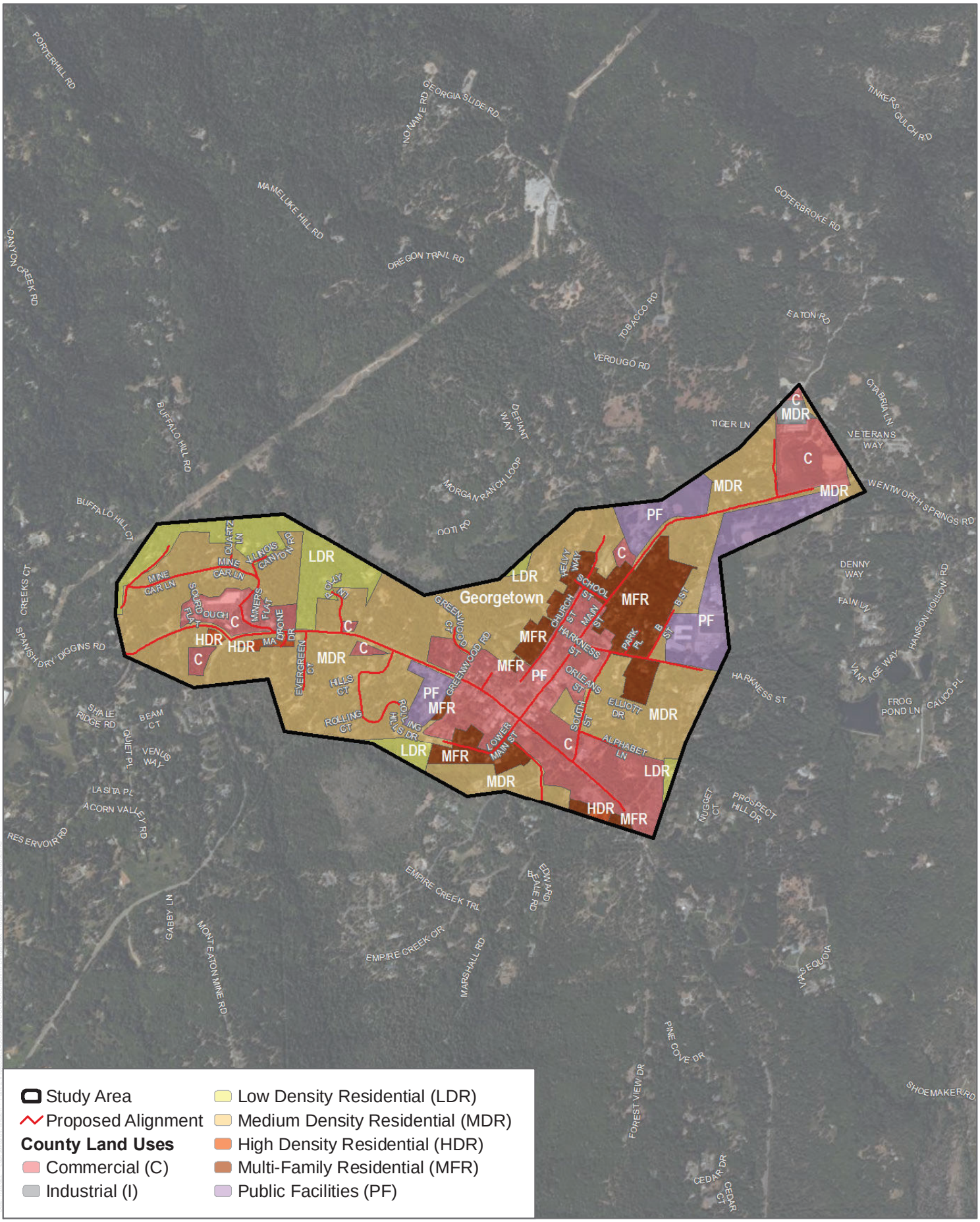
DUDEK

0 400 800 Feet

FIGURE 4.B

Proposed Alignment Land Uses

El Dorado Fiber Optics



SOURCE: El Dorado County 2018, Bing Maps 2022

FIGURE 4.C

Proposed Alignment Land Uses

El Dorado Fiber Optics

ATTACHMENT 2 MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
BIOLOGICAL RESOURCES							
Mitigation Measure BIO-1: Eventual development on the Project site would involve the use of heavy equipment adjacent to nesting bird habitat and potentially trimming of roadside vegetation, which have the potential to impact nesting birds protected by the federal MBTA and state FGC. Direct impacts from active tree removal or nest destruction, or indirect impacts from construction noise and vibration, to nesting birds would be considered a potentially significant impact. To avoid impacting active nests, Dudek recommends conducting tree or vegetation removal, if required, outside of the nesting season (September through February). If not feasible and construction will occur during the nesting season (February through August), Dudek recommends implementing the following measures to avoid or minimize impacts to nesting birds: • A qualified biologist shall conduct a pre-construction survey for nesting birds no more than five days prior to vegetation trimming or removal or ground-disturbing activities conducted during the nesting season (generally February through August). The survey should cover the limits of construction and suitable nesting habitat within 500 feet of the Project site for raptors and 100 feet for other nesting birds, as feasible and accessible. • If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance will typically range from 50 to 500 feet and should be determined based on factors such as the species of bird, topographic features, intensity	EDC	OTC	PGP	EDCPD			

1 Appl. = Applicant; EDC = El Dorado County
2 CPI = Construction Period Inspection, OTC = One-time Confirmation Action; PC = Plan Check; POC = Post Occupancy Inspection; SMS = Specialized Monitoring Study; SSR = Subsequent Standard Review
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Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests should be established in the field with flagging, fencing, or other appropriate barriers and should be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. • If vegetation removal activities are delayed, additional nest surveys should be conducted such that no more than 5 days elapse between the prior survey and active construction activities. • If an active nest is identified in or adjacent to the construction limits after construction has started, work in the vicinity of the nest should be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.							
Mitigation Measure BIO-2: If bats are roosting on the Project site, direct impacts to individual bats could result from the removal of or modification to roosting sites, such as trees, bridges, and buildings. Should individual bats be roosting during construction activities, removal of active day roost sites that would result in the harm or mortality of native bats and would be considered a violation of the take provisions of Section 4150 of the California Fish and Game Code for non-game mammals (including native bats). To avoid or minimize the potential for take of roosting bats, Dudek recommends implementing the following measures:	EDC	OTC	PGP	EDCPD			

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Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
• A qualified biologist shall conduct a habitat assessment for roosting bats within the project site. The habitat assessment shall include a visual inspection of potential roosting features (bats need not be present) and presence of guano within the project site, access routes, and 50 feet around these areas. The biologist shall survey these areas between 30 and 120 days prior to the start of work. Potential roosting features found during the survey shall be flagged or marked. • Trees will be removed in pieces, rather than felling the entire tree. • If a maternity roost is located, that roost will remain undisturbed with a buffer until a qualified biologist has determined that the roost is no longer active. If project activities must occur in close proximity to the buffer during the maternity roosting season, monitoring during construction may be required as determined by a qualified biologist. • If the maternity roost is located in a tree or building that is planned for removal, roost exclusion must occur outside of the maternity roosting season prior to the removal of the roost. An Exclusion Plan will be developed detailing the methods for exclusion and replacement roost installation (such as the placement of bat boxes) that will require approval of CDFW prior to implementing exclusion. The Exclusion Plan will also include monitoring to ensure that all bats have left the roost prior to demolition or removal. • If a non-maternity roost in a tree is found, the qualified biologist shall coordinate with the Contractor to avoid impacts to the roost if possible. • Trees with suitable roosting opportunities will be							

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Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
removed in pieces, rather than felling the entire tree. Any potential roost location in a tree where absence of roosting could not be confirmed will be monitored to determine if any bats are leaving or falling out of a tree.							
Mitigation Measure BIO-3: If complete avoidance of jurisdictional aquatic resources is not feasible, aquatic resource permits from the USACE, RWQCB, and/or CDFW (e.g., 404 Nationwide Permit, 401 Water Quality Certification and 1600 Streambed Alteration Agreement) would be obtained prior to start of construction within the aquatic resources. Compensatory mitigation may be required for any permanent impacts to aquatic resources to ensure no net loss of these resources. Potential compensatory mitigation options would be determined in conjunction with the agencies during permitting and may include purchasing mitigation credits from an agency-approved wetlands mitigation bank or paying an agency-approved in-lieu fee. If horizontal drilling is proposed under waterways subject to CDFW jurisdiction, a Streambed Alteration Agreement with supplemental Hydraulic Fracture (Frac-out) Avoidance Plan would be obtained prior to commencement of construction. The Plan shall describe the procedures for boring beneath waterways, and procedures for containing a hydraulic fracture.	EDC	PC	PGP	EDCPD			
Mitigation Measure BIO-4: : If project construction would occur within the drip line of a living native oak tree (genus Quercus), the drip line shall be demarcated with environmentally sensitive area (ESA) fencing. No equipment, materials storage, or surface disturbance shall be allowed within the fenced drip line. Directional boring will be allowed beneath trees, with equipment staged and	EDC	CPI	DPC	EPCPD			

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Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
operated outside the drip line area. If removal of a native oak tree is required (or construction will affect 30% or more of the drip line area), replacement shall be required pursuant to Chapter 130.39 of the El Dorado County Ordinance Code. Replacement planting shall adhere to the Replacement Planting Guidelines outlined in Section 2.4 of the El Dorado County Oak Resources Management Plan. On-site replacement is preferred. If on-site replacement is infeasible, off-site replacement will be implemented at a site determined by the County.							
CULTURAL RESOURCES							
Mitigation Measure CUL-1: Prior to the initiation of ground-disturbing work, construction crews shall be made aware of the potential to encounter cultural resources and the action to be taken if an unanticipated archaeological discovery is made. In the event that unanticipated potential archaeological deposits or features are exposed during construction activities, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting Secretary of the Interior Standards in archaeology, has been retained and is provided an opportunity to evaluate the significance of the find and determine whether or not additional study is warranted. The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeologist. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment. The potential for avoidance should be the primary consideration of this initial process. Significance of the find shall be assessed as outlined by CEQA (14 CCR 15064.5[f]; PRC Section 21082). If the archaeologist observes the discovery to be potentially significant under CEQA or Section 106 of the NHPA, additional efforts, such as preparation of an archaeological treatment plan, testing, and/or data recovery, may be	Contractor	OTC (training) + CPI	DPC	EDCPD			

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Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
warranted prior to allowing construction to proceed in this area.							
Mitigation Measure CUL-2: In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, the county coroner shall be immediately notified of the discovery. The coroner shall provide a determination within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, shall occur until the coroner has reviewed next steps based on regulatory conditions and a determination has been made regarding if the find is human in origin. If the county coroner determines that the remains are, or are believed to be, Native American, the coroner shall notify the NAHC within 24 hours. In accordance with PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendent from the deceased Native American. Within 48 hours of the notification, the most likely descendent shall recommend to the lead agency their preferred treatment of the remains and associated grave goods.	Contractor	CPI	DPC	EDCPD			
TRIBAL CULTURAL RESOURCES							
Mitigation Measure TCR-1: Prior to approval of final design by the County, project plans shall be submitted to the UAIC Tribal Historic Preservation Office (THPO) for confidential review. The THPO shall identify potential conflicts with areas of cultural sensitivity. Directional boring entry pits (which also serve as future service faults and splice points) shall be relocated to avoid the identified sensitive areas. If open trenching is required, TCR-2 shall apply.	EDC	PC	PGP	EDCPD			
Mitigation Measure TCR-2: Should avoidance per TCR-1 be infeasible, or if open trenching is necessary, construction monitoring shall be required within sensitive areas (as identified per TCR-2). A qualified archaeologist	EDC	SPS	DPC	EDCPD			

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Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
and Native American representative shall monitor initial grading, subsurface disturbances, or other ground-disturbing activities within identified areas of cultural sensitivity. Areas of elevated sensitivity will be identified by a qualified archaeologist in consultation with the lead agency and consulting tribes prior to initiation of construction. Native American monitoring should be inclusive of those traditionally culturally affiliated tribes and related tribal cultural values expressed through the process of government to government consultation. Prior notice of construction activities requiring monitoring shall be provided as early as possible, but not less than 48 hours. General responsibilities of the archaeologist monitor shall include monitoring construction, preparation of daily monitoring logs, reporting and assessing inadvertent discoveries, communication with on-site Native American monitors and contractors, guiding installation and tracking maintenance of environmentally sensitive area marking. The archaeological monitor and Native American monitor shall have the authority to temporarily halt work to inspect areas for potential cultural material or deposits. In the event that unanticipated -archaeological deposits or features are exposed during construction activities, all construction work occurring within 100 feet of the find shall immediately stop until the archaeological principal investigator can evaluate the significance of the find and determine whether or not additional study is warranted. The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeological principal investigator. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment. The potential for avoidance should be the primary							

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ATTACHMENT 1 FIGURES

ATTACHMENT 2 MITIGATION MONITORING AND REPORTING PROGRAM

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CULTURAL RESOURCES							
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4 EDCPD = El Dorado County Planning Division; EDCSD = El Dorado County Sheriff's Department; EDHFD = El Dorado Hills Fire District; EDCDOT = El Dorado County Transportation Division; EDCBD = El Dorado County Building Division; EDCDEH = El Dorado County Department of Environmental Health

Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
warranted prior to allowing construction to proceed in this area.							
Mitigation Measure CUL-2: In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, the county coroner shall be immediately notified of the discovery. The coroner shall provide a determination within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, shall occur until the coroner has reviewed next steps based on regulatory conditions and a determination has been made regarding if the find is human in origin. If the county coroner determines that the remains are, or are believed to be, Native American, the coroner shall notify the NAHC within 24 hours. In accordance with PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendent from the deceased Native American. Within 48 hours of the notification, the most likely descendent shall recommend to the lead agency their preferred treatment of the remains and associated grave goods.	Contractor	CPI	DPC	EDCPD			
TRIBAL CULTURAL RESOURCES							
Mitigation Measure TCR-1: Prior to approval of final design by the County, project plans shall be submitted to the UAIC Tribal Historic Preservation Office (THPO) for confidential review. The THPO shall identify potential conflicts with areas of cultural sensitivity. Directional boring entry pits (which also serve as future service faults and splice points) shall be relocated to avoid the identified sensitive areas. If open trenching is required, TCR-2 shall apply.	EDC	PC	PGP	EDCPD			
Mitigation Measure TCR-2: Should avoidance per TCR-1 be infeasible, or if open trenching is necessary, construction monitoring shall be required within sensitive areas (as identified per TCR-2). A qualified archaeologist	EDC	SPS	DPC	EDCPD			

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Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
and Native American representative shall monitor initial grading, subsurface disturbances, or other ground-disturbing activities within identified areas of cultural sensitivity. Areas of elevated sensitivity will be identified by a qualified archaeologist in consultation with the lead agency and consulting tribes prior to initiation of construction. Native American monitoring should be inclusive of those traditionally culturally affiliated tribes and related tribal cultural values expressed through the process of government to government consultation. Prior notice of construction activities requiring monitoring shall be provided as early as possible, but not less than 48 hours. General responsibilities of the archaeologist monitor shall include monitoring construction, preparation of daily monitoring logs, reporting and assessing inadvertent discoveries, communication with on-site Native American monitors and contractors, guiding installation and tracking maintenance of environmentally sensitive area marking. The archaeological monitor and Native American monitor shall have the authority to temporarily halt work to inspect areas for potential cultural material or deposits. In the event that unanticipated -archaeological deposits or features are exposed during construction activities, all construction work occurring within 100 feet of the find shall immediately stop until the archaeological principal investigator can evaluate the significance of the find and determine whether or not additional study is warranted. The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeological principal investigator. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment. The potential for avoidance should be the primary							

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Mitigation Measures	Monitoring				Verification		
	Implementing RP[1]	Type of Monitoring Action[2]	Timing Require-ments[3]	Monitoring/ Verification Entity[4]	Signature	Date	Comments
consideration of this initial process. Significance of the find shall be assessed as outlined by CEQA (14 CCR 15064.5[f]; PRC Section 21082). If the archaeological principal investigator observes the discovery to be potentially significant under CEQA or Section 106 of the NHPA, additional efforts would apply. Pertinent management strategies in order of preference may include: 1) avoidance and/or other methods of preservation in place; 2) developing a treatment plan in consultation with the lead agency that outlines appropriate archaeological evaluation methods, handling of recovered archaeological material including requirements for curation, reburial, and-or repatriation, and other pertinent resource-specific management strategies; 3) if resource is confirmed significant, and preservation in place remains infeasible, developing and implementing a data recovery plan in consultation with the lead agency. Should an identified archaeological resource be a possible Tribal Cultural Resource, or otherwise Native American in origin, consulting tribes will be notified and extended the opportunity to review and provide input on the management strategies throughout this process. Permanent curation of TCRs will not take place unless approved in writing by UAIC or by the California Native American Tribe that is traditionally and culturally affiliated with the project area.							

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APPENDIX A AIR QUALITY/GHG DATA

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Broadband Middle Mile 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	2.63	20.39	19.29	1.72	0.92	0.80	0.96	0.79	0.17	0.05	4,156.13	0.73	0.06	4,192.31
Grading/Excavation	4.70	41.62	38.86	2.59	1.79	0.80	1.75	1.59	0.17	0.10	8,936.45	1.63	0.14	9,018.72
Drainage/Utilities/Sub-Grade	4.61	40.83	38.24	2.52	1.72	0.80	1.71	1.54	0.17	0.09	8,725.74	1.62	0.13	8,806.10
Paving	2.80	27.33	20.53	1.06	1.06	0.00	0.91	0.91	0.00	0.05	4,835.42	0.89	0.08	4,881.75
Maximum (pounds/day)	4.70	41.62	38.86	2.59	1.79	0.80	1.75	1.59	0.17	0.10	8,936.45	1.63	0.14	9,018.72
Total (tons/construction project)	0.83	7.36	6.73	0.45	0.31	0.13	0.30	0.28	0.03	0.02	1,542.54	0.28	0.02	1,556.75

Notes:

Project Start Year ->	2022
Project Length (months) ->	18
Total Project Area (acres) ->	31
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	1,480	8
Grading/Excavation	20	20	30	30	2,080	8
Drainage/Utilities/Sub-Grade	20	20	30	30	1,800	8
Paving	0	20	0	30	1,680	8

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 -> Broadband Middle Mile 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	0.05	0.40	0.38	0.03	0.02	0.02	0.02	0.02	0.00	0.00	82.29	0.01	0.00	75.30
Grading/Excavation	0.46	4.12	3.85	0.26	0.18	0.08	0.17	0.16	0.02	0.01	884.71	0.16	0.01	809.99
Drainage/Utilities/Sub-Grade	0.23	2.02	1.89	0.12	0.09	0.04	0.08	0.08	0.01	0.00	431.92	0.08	0.01	395.45
Paving	0.08	0.81	0.61	0.03	0.03	0.00	0.03	0.03	0.00	0.00	143.61	0.03	0.00	131.53
Maximum (tons/phase)	0.46	4.12	3.85	0.26	0.18	0.08	0.17	0.16	0.02	0.01	884.71	0.16	0.01	809.99
Total (tons/construction project)	0.83	7.36	6.73	0.45	0.31	0.13	0.30	0.28	0.03	0.02	1542.54	0.28	0.02	1,412.27

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.

Road Construction Emissions Model **Version 9.0.0**

Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Broadband Middle Mile	
Construction Start Year	2022	Enter a Year between 2014 and 2040 (inclusive)
Project Type	2	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	18.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	3	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the lone formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	12.89	miles
Total Project Area	31.20	acres
Maximum Area Disturbed/Day	0.08	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		20.00
	Drainage/Utilities/Sub-Grade	20.00		20.00
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00	20.00	
	Drainage/Utilities/Sub-Grade	20.00	20.00	
	Paving	20.00	20.00	

Mitigation Options

On-road Fleet Emissions Mitigation		Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation		Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		1.80	10/15/2022	1/1/2022
Grading/Excavation		9.00	12/10/2022	2/25/2022
Drainage/Utilities/Sub-Grade		4.50	9/10/2023	11/26/2022
Paving		2.70	1/25/2024	4/12/2023
Totals (Months)		18		

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00		1	30.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		1	30.00
Miles/round trip: Paving		30.00		0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)	0.03	0.41	2.99	0.11	0.05	0.02	1,717.57	0.00	0.27	1,798.05
Drainage/Utilities/Sub-Grade (grams/mile)	0.03	0.41	2.99	0.11	0.05	0.02	1,711.09	0.00	0.27	1,791.28
Paving (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.03	0.21	0.01	0.00	0.00	113.60	0.00	0.02	118.92
Tons per const. Period - Grading/Excavation	0.00	0.00	0.02	0.00	0.00	0.00	11.25	0.00	0.00	11.77
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.03	0.21	0.01	0.00	0.00	113.17	0.00	0.02	118.47
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.01	0.00	0.00	0.00	5.60	0.00	0.00	5.86
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.03	0.00	0.00	0.00	16.85	0.00	0.00	17.64

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00		1	30.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		1	30.00
Miles/round trip: Paving		30.00		1	30.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)	0.03	0.41	2.99	0.11	0.05	0.02	1,717.57	0.00	0.27	1,798.05
Drainage/Utilities/Sub-Grade (grams/mile)	0.03	0.41	2.99	0.11	0.05	0.02	1,711.09	0.00	0.27	1,791.28
Paving (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.03	0.21	0.01	0.00	0.00	113.60	0.00	0.02	118.92
Tons per const. Period - Grading/Excavation	0.00	0.00	0.02	0.00	0.00	0.00	11.25	0.00	0.00	11.77
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.03	0.21	0.01	0.00	0.00	113.17	0.00	0.02	118.47
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.01	0.00	0.00	0.00	5.60	0.00	0.00	5.86
Pounds per day - Paving	0.00	0.03	0.21	0.01	0.00	0.00	112.01	0.00	0.02	117.26
Tons per const. Period - Paving	0.00	0.00	0.01	0.00	0.00	0.00	3.33	0.00	0.00	3.48
Total tons per construction project	0.00	0.00	0.04	0.00	0.00	0.00	20.17	0.00	0.00	21.12

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions User Input	User Override of Worker Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
Miles/ one-way trip		20		
One-way trips/day		2		
No. of employees: Grubbing/Land Clearing		37	74	1,480.00
No. of employees: Grading/Excavation		52	104	2,080.00
No. of employees: Drainage/Utilities/Sub-Grade		45	90	1,800.00
No. of employees: Paving		42	84	1,680.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96
Grading/Excavation (grams/mile)	0.02	0.92	0.07	0.05	0.02	0.00	318.51	0.00	0.01	320.55
Draining/Utilities/Sub-Grade (grams/mile)	0.02	0.90	0.07	0.05	0.02	0.00	315.67	0.00	0.01	317.66
Paving (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grubbing/Land Clearing (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43
Grading/Excavation (grams/trip)	1.05	2.76	0.29	0.00	0.00	0.00	68.43	0.07	0.03	79.73
Draining/Utilities/Sub-Grade (grams/trip)	1.03	2.74	0.29	0.00	0.00	0.00	67.85	0.07	0.03	78.98
Paving (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.24	3.73	0.32	0.15	0.06	0.01	1,084.07	0.03	0.03	1,093.31
Tons per const. Period - Grubbing/Land Clearing	0.00	0.07	0.01	0.00	0.00	0.00	21.46	0.00	0.00	21.65
Pounds per day - Grading/Excavation	0.31	4.85	0.40	0.21	0.09	0.01	1,476.25	0.03	0.04	1,488.19
Tons per const. Period - Grading/Excavation	0.03	0.48	0.04	0.02	0.01	0.00	146.15	0.00	0.00	147.33
Pounds per day - Drainage/Utilities/Sub-Grade	0.26	4.11	0.34	0.18	0.08	0.01	1,266.13	0.03	0.03	1,276.24
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.01	0.20	0.02	0.01	0.00	0.00	62.67	0.00	0.00	63.17
Pounds per day - Paving	0.23	3.60	0.28	0.17	0.07	0.01	1,148.17	0.02	0.03	1,156.95
Tons per const. Period - Paving	0.01	0.11	0.01	0.01	0.00	0.00	34.10	0.00	0.00	34.36
Total tons per construction project	0.06	0.86	0.07	0.04	0.02	0.00	264.39	0.01	0.01	266.51

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions User Input	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT
Grubbing/Land Clearing - Exhaust		1	1.00	5	1		8.00	8.00
Grading/Excavation - Exhaust		1	1.00	5	1		8.00	8.00
Drainage/Utilities/Subgrade		1	1.00	5	1		8.00	8.00
Paving		1	1.00	5	1		8.00	8.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)	0.03	0.41	2.99	0.11	0.05	0.02	1,717.57	0.00	0.27	1,798.05
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	2.99	0.11	0.05	0.02	1,711.09	0.00	0.27	1,791.28
Paving (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.01	0.06	0.00	0.00	0.00	30.84	0.00	0.00	32.28
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.64
Pounds per day - Grading/Excavation	0.00	0.01	0.06	0.00	0.00	0.00	30.29	0.00	0.00	31.71
Tons per const. Period - Grading/Excavation	0.00	0.00	0.01	0.00	0.00	0.00	3.00	0.00	0.00	3.14
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.01	0.06	0.00	0.00	0.00	30.18	0.00	0.00	31.59
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	1.56
Pounds per day - Paving	0.00	0.01	0.06	0.00	0.00	0.00	29.87	0.00	0.00	31.27
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.00	0.00	0.93
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	5.99	0.00	0.00	6.27

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		0.08	0.80	0.02	0.17	0.00
Fugitive Dust - Grading/Excavation		0.08	0.80	0.08	0.17	0.02
Fugitive Dust - Drainage/Utilities/Subgrade		0.08	0.80	0.04	0.17	0.01

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Crawler Tractors	0.49	2.31	6.01	0.23	0.21	0.01	759.03	0.25	0.01	767.22
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Excavators	0.40	6.51	3.55	0.17	0.16	0.01	1,000.03	0.32	0.01	1,010.81
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	26		Model Default Tier	Signal Boards	1.49	7.83	9.34	0.36	0.36	0.02	1,282.16	0.13	0.01	1,288.68
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	2.39	16.65	18.91	0.76	0.73	0.04	3,041.22	0.70	0.03	3,066.71
Grubbing/Land Clearing	tons per phase	0.05	0.33	0.37	0.02	0.01	0.00	60.22	0.01	0.00	60.72

Grading/Excavation

Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Air Compressors	0.26	2.42	1.75	0.10	0.10	0.00	375.26	0.02	0.00	376.67
1.00			Model Default Tier	Bore/Drill Rigs	0.22	2.03	2.06	0.07	0.06	0.01	915.26	0.30	0.01	925.14
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0		Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3		Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Generator Sets	0.31	3.67	2.73	0.13	0.13	0.01	623.04	0.03	0.00	625.12
1.00	2		Model Default Tier	Graders	0.39	1.69	4.70	0.15	0.14	0.01	640.89	0.21	0.01	647.79
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Pumps	0.33	3.73	2.77	0.14	0.14	0.01	623.04	0.03	0.00	625.15
0.00	2		Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rough Terrain Forklifts	0.11	2.29	1.41	0.05	0.04	0.00	333.80	0.11	0.00	337.40
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	2		Model Default Tier	Scrapers	0.79	6.16	8.33	0.33	0.30	0.02	1,470.14	0.48	0.01	1,485.98
	26		Model Default Tier	Signal Boards	1.49	7.83	9.34	0.36	0.36	0.02	1,282.15	0.13	0.01	1,288.68
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.00	4		Model Default Tier	Tractors/Loaders/Backhoes	0.46	6.70	4.64	0.23	0.21	0.01	904.65	0.29	0.01	914.39
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment

If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	4.38	36.71	37.98	1.56	1.49	0.08	7,202.71	1.59	0.06	7,260.98
Grading/Excavation	tons per phase	0.43	3.63	3.76	0.15	0.15	0.01	713.07	0.16	0.01	718.84

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Air Compressors	0.25	2.41	1.72	0.09	0.09	0.00	375.26	0.02	0.00	376.66
1.00			Model Default Tier	Bore/Drill Rigs	0.21	2.03	2.01	0.07	0.06	0.01	915.76	0.30	0.01	925.65
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Generator Sets	0.30	3.67	2.68	0.13	0.13	0.01	623.04	0.03	0.00	625.11
	1		Model Default Tier	Graders	0.38	1.69	4.56	0.15	0.14	0.01	640.79	0.21	0.01	647.70
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Pumps	0.32	3.72	2.72	0.13	0.13	0.01	623.04	0.03	0.00	625.14
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Rough Terrain Forklifts	0.11	2.29	1.39	0.04	0.04	0.00	333.79	0.11	0.00	337.39
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Scrapers	0.78	6.11	8.18	0.32	0.30	0.02	1,469.94	0.48	0.01	1,485.78
	26		Model Default Tier	Signal Boards	1.49	7.83	9.34	0.36	0.36	0.02	1,282.15	0.13	0.01	1,288.68
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes	0.45	6.70	4.56	0.22	0.20	0.01	904.83	0.29	0.01	914.57
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	4.34	36.65	37.42	1.52	1.46	0.08	7,203.09	1.59	0.06	7,261.32
Drainage/Utilities/Sub-Grade	tons per phase	0.21	1.81	1.85	0.08	0.07	0.00	356.55	0.08	0.00	359.44

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Pavers	0.18	2.89	1.74	0.08	0.07	0.00	455.16	0.15	0.00	460.07
	1		Model Default Tier	Paving Equipment	0.16	2.57	1.50	0.07	0.07	0.00	394.47	0.13	0.00	398.72
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Rollers	0.29	3.70	3.05	0.16	0.15	0.01	508.29	0.16	0.00	513.77
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	26		Model Default Tier	Signal Boards	1.49	7.83	9.34	0.36	0.36	0.02	1,282.15	0.13	0.01	1,288.68
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes	0.43	6.71	4.34	0.20	0.18	0.01	905.30	0.29	0.01	915.04
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Paving	pounds per day	2.56	23.70	19.98	0.88	0.84	0.04	3,545.37	0.87	0.03	3,576.28
Paving	tons per phase	0.08	0.70	0.59	0.03	0.02	0.00	105.30	0.03	0.00	106.22
Total Emissions all Phases (tons per construction period) =>		0.77	6.48	6.58	0.27	0.26	0.01	1,235.14	0.28	0.01	1,245.21

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

APPENDIX B PRE-CONSTRUCTION BOTANICAL SURVEY

853 LINCOLN WAY, SUITE 208
AUBURN, CALIFORNIA 95603
T 530.887.8500 F 530.887.1250

May 25, 2021 12450.05

Bret Sampson
County of El Dorado
Planning and Building Department
Economic Development Division
2850 Fairlane Court
Placerville, CA 95667

Subject: ***Pre-Construction Botanical Survey Results for the El Dorado County Fiber Optic Grant Project***

Dear Mr. Sampson:

This report documents the findings of a rare plant survey conducted for El Dorado County's Fiber Optic Project ("project"). The survey focused on a portion of the proposed project area within the unincorporated community of Cool, California ("survey area") with potential habitat for species-status plant species based on the presence of suitable soil types (e.g. serpentine soils – refer to Figure 1). The purpose of the survey was to determine whether the survey area supports existing special-status plants. Based on a review of background information, five special-status plant species have a varied potential to occur within the survey area.

Project Setting

Site Location

The survey area is located east of State Route 49/Coloma Road and north of State Route 193 in the vicinity of Cool in the northwestern portion of El Dorado County, California. The survey area is located in Township 12N, Range 9E, and Sections 7, 8, 17, and 18 of the "Auburn, CA" and "Greenwood, CA" U.S. Geological Survey (USGS) 7.5-minute quadrangles. The approximate center of the project site corresponds to 38° 53' 44.11954" north latitude and -121° 0' 18.52051" west longitude.

Site Description

The survey area is located within the northern high Sierra Nevada geographic subdivision of the California Floristic Province (Jepson Flora Project 2021). Elevations in the project area range from approximately 1,400 to 1,700 feet above mean sea level. Topography consists of gently sloping valleys and hillsides. The region surrounding the survey area receives an annual average of approximately 31.89 inches of precipitation and 2.6 inches of snowfall (WRCC 2021a). Average temperatures range from approximate 45.4 to 70.8 degrees Fahrenheit (WRCC 2021b).

The survey area is dominated by urban and rural residential development within oak woodland, primarily comprised of ornamental landscaping and horse pastures. Auburn Lake Trails is a gated community located centrally within the survey area that contains many miles of hiking and equestrian trails, a golf course, clubhouse, and other developed amenities. Rocky serpentine outcroppings occur along Pointed Rocks Trail. The right-of-way experiences regular maintenance activities (e.g., mowing and clearing) and where present, vegetation consists of non-native annual grasses and forbs. Multiple aquatic or riparian resources are present, including ephemeral and intermittent

drainages, ditches, and canals with overhanging willow thickets. The mixed oak woodland supports a variety of species, such as blue oak (*Quercus douglasii*), interior live oak (*Q. wislizenii*), black oak (*Q. kelloggii*), California foothill pine (*Pinus sabiniana*), California buckeye (*Aesculus californica*), Pacific madrone (*Arbutus menziesii*), toyon (*Heteromeles arbutifolia*), and manzanita (*Arctostaphylos* spp.). Wetland plants found along streams or within wetlands include red willow (*Salix laevigata*), elm-leaf blackberry (*Rubus ulmifolius*), and narrowleaf cattail (*Typha angustifolia*).

Methods

Reference Population Research and Survey

Potential reference populations for special-status plant species were identified through an analysis of past records documented in the CNDDB (CDFW 2021), Calflora online database (Calflora 2021), and the California Consortium of Herbaria (CCH) online database (CCH 2021). Potential reference populations were selected based on a variety of factors, including age, accessibility, and location of record, as well as location details, site description, and confidence of species identification.

On April 14, 2021, Dudek biologist, Anna Godinho, conducted a field survey of potential reference populations for five special-status plant species (Jepson's onion, Stebbins' morning-glory, Red Hills soaproot, Layne's ragwort, and oval-leaved viburnum; scientific names provided in Table 1 below). Stebbins' morning-glory, Red Hills soaproot, Layne's ragwort were all observed at reference populations within the Bureau of Land Management's Pine Hill Preserve, and oval-leaved viburnum was observed at a reference population within the Auburn State Recreation Area. The reference populations for Jepson's onion were inaccessible due to being located on private property. Only Stebbins' morning-glory was in bloom at the time of the reference population check; however, prior to performing the rare plant survey in May, Ms. Godinho confirmed the blooming status of Red Hills soaproot and Layne's ragwort within the Pine Hill Preserve (pers. comm., Graciela Hinshaw, Pine Hill Preserve Manager). Reference site photographs are included in Attachment A.

Rare Plant Survey

Ms. Godinho conducted a survey of the survey area on May 14, 2021. The surveys applied recommended methodology described in the CNPS Botanical Survey Guidelines (CNPS 2001) and the CDFW *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018). The focused survey area consisted of potential laydown and staging areas and areas of serpentine and/or gabbroic soils within the road rights-of-way.

The survey was floristic in nature and consisted of driving the road rights-of-way and walking where accessible in areas requiring further examination. If any potential or confirmed special-status plant species were encountered, they were mapped in the field directly onto aerial photograph–based field maps of the project site using ESRI Collector for ArcGIS on hand-held devices. ESRI Collector is a mobile data collection tool for conducting focused biological resources surveys. During fieldwork, all plant points and polygons were synced directly with a central geodatabase in ArcGIS for increased data collection and processing efficiency.

The timing of the survey was such that the target species would be evident and identifiable. All botanical resources encountered were identified to a level necessary to determine rarity. Botanical nomenclature follows the Jepson Online Interchange Project (Jepson eFlora Project 2020). When appropriate for identification, specimens were collected for further study in a lab setting. Representative photos of the survey area are included in Attachment A.

Results

A total of 54 species of native or naturalized plants, 30 native (56%) and 24 non-native (44%), was recorded during the survey (see Attachment B). None of the target special-status plants, nor any other special-status species, were identified during the rare plant survey (see Table 1). Of the potential reference populations visited, four target species, Stebbins' morning-glory, Red Hills soaproot, Layne's ragwort, and oval-leaved viburnum, were identified. Based on a review of herbarium collections and the phenological status of the reference populations, the timing of the May survey coincided with the bloom season when target special-status plant species would be evident and identifiable in the survey area region.

Table 1. Target Special-Status Species

Scientific Name	Common Name	Habitat Associations	Bloom Period	Observed During Survey
Allium jepsonii	Jepson's onion	Chaparral, Cismontane woodland, Lower montane coniferous forest; Serpentinite or volcanic	Apr-Aug	No
Calystegia stebbinsii	Stebbins' morning-glory	Chaparral (openings), Cismontane woodland; gabbroic or serpentinite	Apr-Jul	No
Chlorogalum grandiflorum	Red Hills soaproot	Chaparral, Cismontane woodland, Lower montane coniferous forest; serpentinite, gabbroic and other soils	May-Jun	No
Packera layneae	Layne's ragwort	Chaparral, Cismontane woodland; serpentinite or gabbroic, rocky	Apr-Aug	No
Viburnum ellipticum	oval-leaved viburnum	Chaparral, Cismontane woodland, Lower montane coniferous forest	May-Jun	No

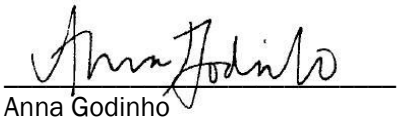
Regional rainfall proceeding the rare plant survey on May 14, 2021 was below average, resulting in drier than normal conditions (USACE 2021).

Conclusions and Recommendations

As previously noted, five special-status plant species have a varied potential to occur in the survey area based on habitat suitability and known occurrences in the region; however, none of these species, nor any other special-status plant species, were observed within the survey area during the May 2021 survey. Assuming that staging and laydown areas will be located outside of the undeveloped area of serpentine rock land soils (SaF)(Figure 1, Soils), no additional plant surveys for this project are required.

If you have any questions or concerns regarding the content of this report, please contact me at (530) 863-4272 or agodinho@dudek.com.

Sincerely,



Anna Godinho
Biologist

Attachments
A Photo Log
B List of Plant Species Observed in the Survey Area

cc: Laura Burris, Dudek
Brian Grattidge, Dudek

References

Calflora. 2021. Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. Berkeley, California: The Calflora Database. Accessed May 2021. https://www.calflora.org.

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CDFW (California Department of Fish and Wildlife). 2018. *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities*. Sacramento, CA.

CDFW (California Department of Fish and Wildlife). 2021. California Natural Diversity Database (CNDDB). RareFind, Version 5. (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. http://www.dfg.ca.gov/biogeodata/ cnddb/mapsanddata.asp.

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USACE (United States Army Corps of Engineers). 2021. Antecedent Precipitation Tool (APT) v1.0.13. https://github.com/jDeters-USACE/Antecedent-Precipitation-Tool/releases/tag/v1.0.13.

WRCC (Western Regional Climate Center). 2021a. Cool, California (041985). Monthly Climate Summary. Accessed May 2021. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca1985.

WRCC. 2021b. Auburn Dam Project, California (040385). Monthly Climate Summary. Accessed May 2021. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0385.

Attachment A

Photo Log

Photo 1: View of rural residential development within the survey area.

Photo 2: View of mixed oak woodland within the survey area.

Photo 3: View of rocky serpentine outcropping along Pointed Rock Trail within the survey area.

Photo 4: View of reference chaparral habitat with gabbroic soils supporting Stebbins' morning-glory, Layne's ragwort, and Red Hills soaproot within the Pine Hill Preserve. April 14, 2021.

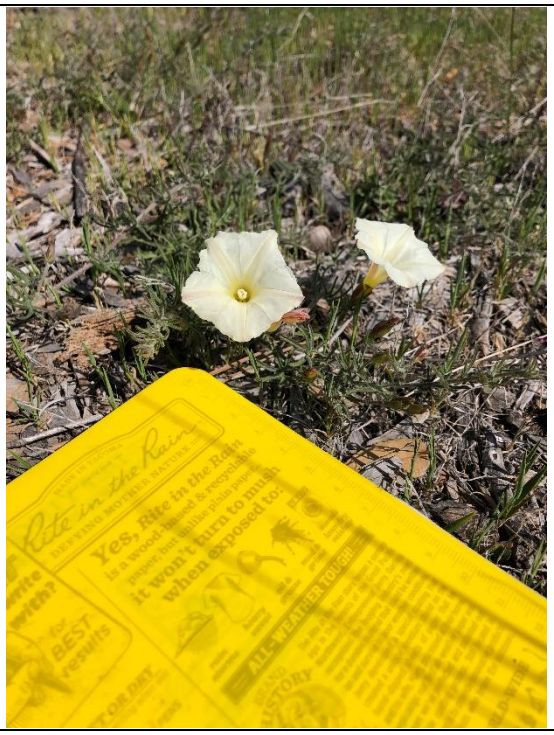

Photo 5: View of Stebbins' morning-glory observed in bloom during the April 14, 2021 reference check.

Photo 6: View of oval-leaved viburnum observed during the April 14, 2021 reference check.

INTENTIONALLY LEFT BLANK

Attachment B

List of Plant Species Observed

Plant Species

EUDICOTS

ANACARDIACEAE—Sumac Or Cashew Family
- *Toxicodendron diversilobum*—poison oak

APIACEAE—Carrot Family
- *Anthriscus caucalis*—bur chervil*
- *Conium maculatum*—poison hemlock*
- *Daucus pusillus*—American wild carrot

ASTERACEAE—Sunflower Family
- *Baccharis pilularis*—coyote brush
- *Balsamorhiza sagittata*—arrowleaf balsamroot
- *Carduus pycnocephalus*—Italian plumeless thistle*
- *Centaurea solstitialis*—yellow star-thistle*
- *Dittrichia graveolens*—stinkwort*
- *Eriophyllum lanatum*—common woolly sunflower
- *Hypochaeris radicata*—hairy cat's ear*
- *Lactuca serriola*—prickly lettuce*
- *Matricaria discoidea*—disc mayweed
- *Wyethia mollis*—woolly mule-ears

BRASSICACEAE—Mustard Family
- *Brassica nigra*—black mustard*

CONVOLVULACEAE—Morning-glory Family
- *Convolvulus arvensis*—field bindweed*

ERICACEAE—Heath Family
- *Arbutus menziesii*—madrone
- *Arctostaphylos manzanita*—common manzanita
- *Arctostaphylos patula*—green leaf manzanita
- *Arctostaphylos viscida*—whiteleaf manzanita

FABACEAE—Legume Family
- *Cytisus scoparius*—broom*
- *Trifolium hirtum*—rose clover*

FAGACEAE—Oak Family
- *Quercus douglasii*—blue oak
- *Quercus kelloggii*—California black oak
- *Quercus wislizeni*—interior live oak

GERANIACEAE—Geranium Family
- *Erodium botrys*—longbeak stork's bill*

PAPAVERACEAE—Poppy Family
- *Eschscholzia californica*—California poppy

PHRYMACEAE—Lopseed Family
Erythranthe guttata—common monkey flower
PLANTAGINACEAE—Plantain Family
Plantago erecta—dwarf plantain
POLYGONACEAE—Buckwheat Family
Eriogonum nudum—naked buckwheat
Rumex pulcher—fiddle dock*
RHAMNACEAE—Buckthorn Family
Ceanothus cuneatus—wedge leaf ceanothus, buck brush
ROSACEAE—Rose Family
Heteromeles arbutifolia—toyon
Rubus ulmifolius—elmleaf blackberry*
SALICACEAE—Willow Family
Populus fremontii—Fremont cottonwood
Salix laevigata—red willow
SAPINDACEAE—Soapberry Family
Aesculus californica—California buckeye
SCROPHULARIACEAE—Figwort Family
Verbascum blattaria—moth mullein*
Verbascum thapsus—common mullein*

GYMNOSPERMS AND GNETOPHYTES

PINACEAE—Pine Family
Pinus sabiniana—foothill pine

MONOCOTS

CYPERACEAE—Sedge Family
Eleocharis macrostachya—pale spike rush
IRIDACEAE—Iris Family
Iris douglasiana—Douglas iris
POACEAE—Grass Family
Aira caryophyllea—silver hairgrass*
Avena fatua—wild oat*
Briza maxima—big quakinggrass*
Cynodon dactylon—Bermudagrass*
Cynosurus echinatus—annual dogtails*
Festuca perennis—perennial rye grass*
Hordeum murinum—mouse barley*
Phalaris aquatica—Harding grass*
THEMIDACEAE—Brodiaea Family
Brodiaea elegans—harvest brodiaea
Dipterostemon capitatus—bluedicks
Triteleia laxa—Ithuriel's spear
TYPHACEAE—Cattail Family

Typha angustifolia—narrowleaf cattail

* signifies introduced (non-native) species

APPENDIX C SPECIAL STATUS SPECIES POTENTIAL TO OCCUR

Row Labels	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Amphibians					
Rana boylii pop. 5	foothill yellow-legged frog - south Sierra DPS	FPE/SE	Rocky streams and rivers with open banks in forest, chaparral, and woodland. May disperse up to 3 miles from aquatic resource to adjacent upland sites for estivation.	Y	Low potential to occur in upland areas and woodland at Garden Valley Site, which is 2 miles from Perry Mountain creek which could support spawning. No suitable vegetation present at Georgetown or Cool sites. CNDDB occurrences from 2007 are 2 miles northwest of the Cool site. Occurrences from 2004 are 2.7 miles southwest of Garden Valley Site
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Y	Low potential to occur at Garden Valley and Georgetown sites. Garden Valley has adjaent uplands and livestock ponds as well as Perry Mountain Creek 2 miles southwest.. No suitable vegetation present at Georgetown or Cool sites, but CNDDB occurrences from 2009 on site for entire Georgetown quad. Specific occurrence from 2014 located 0.5 miles east of the Georgetown site.

Row Labels	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Birds					
Accipiter gentilis (nesting)	northern goshawk	None/SSC	Nests primarily in middle- and higher-elevation dense conifer forests; winters at lower elevations along coast, foothills, and northern deserts in riparian and pinyon–juniper woodland	Y	Low potential to occur No suitable vegetation present at Cool Site. CNDDB occurrences from 1980 are 7 miles southeast of the Georgetown site and 6 miles southeast from the Garden Valley site. Garden valley site has adjacent woodlands suitable for nesting and foraging.
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture	Y	Low potential to occur at Garden Valley site due to grasslands on site and adjacent woodlands and agriculture. CNDDB occurrences from 2011 located 6 miles south of Garden Valley site.
Ardea alba (nesting colony)	great egret	None/None	Nests and roosts in large trees over water or on islands, both in freshwater and marine estuarine habitats; forages in wetlands, including marshes, streams, ditches, and fish-rearing ponds, but also in irrigated pastures and croplands	N	Not expected to occur. No suitable vegetation or aquatic habitat present at any of the sites.
Cypseloides niger (nesting)	black swift	BCC/SSC	Nests in moist crevices, caves, and cliffs behind or adjacent to waterfalls in deep canyons; forages over a wide range of habitats	N	Not expected to occur. No suitable vegetation present. Historic CNDDB occurrences from 1967 are 7 miles north of the Georgetown site.

Row Labels	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Y	Low potential to occur at Garden Valley site due to grasslands onstie with adjacent woodland and individual trees near open lands and agriculture. No CNDDB occurrences within 10 miles at any site.
Falco peregrinus anatum (nesting)	American peregrine falcon	FPD/FP, SCD	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Y	High potential to occur. CNDDB occurrence records from 2015 on site (occur in entire Auburn quadrant). Nearby buildings and ornamnetal trees along Cool site could support foraging and nesting.
Haliaeetus leucocephalus (nesting and wintering)	bald eagle	FPD/FP, SE	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains	N	Not expected to occur. No suitable vegetation or aquatic habitat present at any of the sites.
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	N	Not expected to occur. No suitable vegetation or aquatic habitat present at any of the sites.
Pandion haliaetus (nesting)	osprey	None/WL	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	N	Not expected to occur. No coastal or aquatic habitat with forested areas present at any of the sites.

Row Labels	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Progne subis (nesting)	purple martin	None/SSC	Nests and forages in woodland habitats including riparian, coniferous, and valley foothill and montane woodlands; in the Sacramento region often nests in weep holes under elevated freeways	Y	Low potential to occur at Garden Valley site due to adjacent woodland habitats in Sacramento region. No CNDDB occurrences within 10 miles of any site.
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	Y	Low potential to occur at Garden Valley Site. No suitable vegetation present at Cool or Georgetown sites. Historic CNDDB occurrences from 1873 located 4.5 miles southeast of Garden Valley site, which has suitable open country for migration.
Fishes					
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	FT/None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead	N	Not expected to occur. No suitable vegetation or auatic habitat present. CNDDB occurrences from 2007 located 5.5 miles southwest of Cool site.
Invertebrates					
Ammonitella yatesii	tight coin (=Yates' snail)	None/None	Inhabits limestone caves and outcroppings; favors north-facing slopes	Y	Low potential to occur. No suitable vegetation or north-facing slopes present. Sites are relatively flat with no limestone caves. CNDDB occurrences from an unknown date are 0.7 miles north of the Cool site.

Row Labels	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Andrena subapasta	An andrenid bee	None/None	Collects pollen primarily from Arenaria californica but also Orthocarpus erianthus and Lasthenia spp.	Y	High potential to occur. Historic CNDDB occurrence records from 1964 on Cool site. Ornamental vegetation associated with adjacent commercial development may support suitable floral nectar resources.
Atractelmis wawona	Wawona riffle beetle	None/None	Aquatic; found in riffles of rapid, small to medium clear mountain streams; 2,000 to 5,000 feet above mean sea level	N	Not expected to occur. No suitable aquatic vegetation present at or immediately adjacent to any of the sites.
Banksula californica	Alabaster Cave harvestman	None/None	Known only from the type locality Alabaster Cave, El Dorado County	N	Not expected to occur. No caves present at or immediately adjacent to any of the sites.
Banksula galilei	Galile's cave harvestman	None/None	Known only from the type locality lime rock caves, El Dorado County	N	Not expected to occur. No caves present at or immediately adjacent to any of the sites.
Bombus occidentalis	western bumble bee	None/None	Once common and widespread, species has declined precipitously from central California to southern British Columbia, perhaps from disease	N	Not expected to occur. No suitable vegetation present.
Branchinecta lynchi	vernal pool fairy shrimp	FT/None	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats	N	Not expected to occur. No suitable vegetation present.

Row Labels	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Cosumnoperla hypocrena	Cosumnes stripetail	None/None	Found in intermittent streams on western slope of central Sierra Nevada foothills in American and Cosumnes River basins	Y	Low potential to occur. No suitable vegetation or aquatic habitat present. CNDDB occurrences from 1988-1989 are 1.5 miles northwest and south of the Cool site.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT/None	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*)	N	Not expected to occur. No suitable blue elderberry vegetation present.
Linderiella occidentalis	California linderiella	None/None	Cool soft-water vernal pools in grasslands below 1,000 feet above mean sea level	N	Not expected to occur. No suitable vernal pools present and elevations at all sites are too high to support this species.
Margaritifera falcata	western pearlshell	None/None	Aquatic	N	Not expected to occur. No suitable aquatic habitat present.
Orobittacus obscurus	gold rush hanging scorpionfly	None/None	Known only from a small area on the western slopes of the central Sierra Nevada	N	Not expected to occur. Sites are not within central Sierra Nevada range.
Rhyacophila spinata	spiny rhyacophilan caddisfly	None/None	Rhyacophilids generally prefer cool, running water	N	Not expected to occur. No suitable aquatic vegetation present at or immediately adjacent to any of the sites.
Stygobromus grahami	Graham's Cave amphipod	None/None	Known only from Central California	N	Not expected to occur. No suitable vegetation or caves present.

Row Labels	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Mammals					
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Y	Low potential to occur at Garden Valley site, which has suitable grasslands and woodlands. CNDDB occurrences from 2017 located 4 miles southwest of Garden Valley site. No suitable vegetation for roosting at Georgetown or Cool sites.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Y	Low potential to occur. No suitable vegetation present. Historic CNDDB occurrences from 1950 are 0.5 miles northeast of Cool Site. CNDDB occurrences from 2010 are 5 miles northeast of the Georgetown site. Adjacent ornamental trees with residential and commercial development may support foraging and roosting.
Erethizon dorsatum	North American porcupine	None/None	Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges (CDFW 2018).	N	Not expected to occur. No suitable vegetation present. Historic CNDDB occurrences from 1968 are 1.25 miles northeast of the Cool site and 6 miles southwest of the Georgetown site.

Row Labels	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Lasionycteris noctivagans	silver-haired bat	None/None	Old-growth forest, maternity roosts in trees, large snags 50 feet aboveground; hibernates in hollow trees, rock crevices, buildings, mines, caves, and under sloughing bark; forages in or near coniferous or mixed deciduous forest, stream or river drainages	Y	Low potential to occur at Garden Valley Site due to adjacent woodlands. Suitable developed areas for roosting at Cool site. CNDDB occurrences from 2004 located about 7 mile southeast of Garden Valley site.
Myotis yumanensis	Yuma myotis	None/None	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	Y	Low potential to occur at Garden Valley Site due to adjacent woodlands. Suitable developed areas for roosting at Cool site. CNDDB occurrences from 2004 located about 7 mile southeast of Garden Valley site.
Pekania pennanti	fisher	None/SSC	Ranges widely in forested regions; uses heavy stands of mixed species of mature trees	Y	Low potential to occur at Garden Valley Site. No suitable vegetation present at Cool or Georgetown sites. Historic CNDDB occurrences from 1915 located 4.5 miles southeast of Garden Valley site, which contains suitable forested stands of mature trees

Row Labels	Common Name	Status (Federal/ State)	Habitat	Appropriate habitats?	Potential to Occur
Reptiles					
Emys marmorata	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	N	Not expected to occur. No suitable vegetation or aquatic habitat present. CNDDB occurrences from 2010 about 5.5 miles west of Cool site and 4.75 miles southwest of Georgetown site.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	N	Not expected to occur. No suitable sandy soils or semi-arid mountains with habitats capable of supporting this species at any of the sites.

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APPENDIX D ARCHAEOLOGICAL RESOURCES INVENTORY REPORT

ARCHAEOLOGICAL RESOURCES INVENTORY REPORT
for the
EL DORADO COUNTY MIDDLE-MILE FIBER PROJECT

Prepared for:

County of El Dorado
Planning and Building Department
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Contact: Kyle Zimbelman

And

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Prepared by:

DUDEK
853 Lincoln Way #208
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Adam Giacinto, MA, RPA;
Nicholas Hanten, MA; and Ross Owen, MA, RPA

SEPTEMBER 2021

National Archaeological Database (NADB) Information

Authors:	Adam Giacinto, MA, RPA; Nicholas Hanten, MA; and Ross Owen, MA, RPA
Firm:	Dudek
Project Proponent:	County of El Dorado Planning and Building Department and the Department of Finance
Report Date:	September 2021
Report Title:	Archaeological Resources Inventory Report for the El Dorado County Middle-Mile Fiber Project
Type of Study:	Archaeological Inventory
Resources:	P-09-003632
USGS Quads:	Auburn and Greenwood, California 1:24,000; T 12N, R 9E, Sections 7, 8, 17, and 18
Acreage:	20 ft public ROW within existing roads. See APE map.
Permit Numbers:	Pending
Keywords:	Auburn USGS 7.5-Minute Quadrangle; Greenwood USGS 7.5-Minute Quadrangle; Intensive Pedestrian Survey

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
APE	Area of Potential Effect
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CRHR	California Register of Historical Resources
DPR	California Department of Parks and Recreation
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PRC	California Public Resources Code
project	El Dorado County Middle-Mile Fiber Project
USACE	U.S. Army Corps of Engineers

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Management Summary

El Dorado County (the applicant) is proposing construction of the El Dorado County Middle-Mile Fiber Project (project) located in the cities of Cool, Garden Valley, and Georgetown. The proposed project would install a network of underground fiber optic cables aligned in the existing public right of way (ROW) within three El Dorado communities. The applicant contracted Dudek to perform a Phase I cultural resource inventory for the project. This archaeological resources inventory report was conducted in compliance with the California Environmental Quality Act. Due to potential future permitting related to adjacent jurisdictional waters, the U.S. Army Corps of Engineers, as the lead federal agency, will also likely review the report for compliance with Section 106 of the National Historic Preservation Act.

The project area is located east of State Route 49/Coloma Road and north of State Route 193 in the vicinity of Cool in the northwestern portion of El Dorado County, California. The survey area is located in Township 12N, Range 9E, and Sections 7, 8, 17, and 18 of the "Auburn, CA" and "Greenwood, CA" U.S. Geological Survey (USGS) 7.5-minute quadrangles. The approximate center of the project site corresponds to 38° 53' 44.11954" north latitude and -121° 0' 18.52051" west longitude (Figure 1, Project Location).

The project's direct Area of Potential Effect (APE), as represented by areas that may be subject to direct disturbance by the project, includes the public rights-of-way (ROW), consisting of the lines shown on the APE map and a 10 ft buffer on either side (Figure 2, APE Map). The final design and route layout of the network has not been completed; however, major roads and highways will be used for the routes, using existing public rights-of-way. No right-of-way acquisition would be required. Staging areas would be within public ROW or previously developed public property (such as corporation yards, parking lots, etc.). The fiber optic lines would be installed using directional boring. Typical depth would be 18" below surface, or lower if needed to avoid other utilities. Surface disturbance would therefore be minimal. For the purposes of providing management recommendations, the vertical APE, as represented by the maximum depth of disturbance, is assumed to be 15 feet below the existing ground surface although most work will be 3 feet in depth or shallower. The presen report will be updated once the design has been further refined.

This study consisted of a records search of the APE and a 0.5-mile radius, a Native American Heritage Commission Sacred Lands File search, and an intensive pedestrian survey of the APE. A North Central Information Center records search identified one historic-era ditch and an historic ranching district bridge as within the APE and 47 previously recorded cultural resources within a 0.5-mile radius. The results of the Native American Heritage Commission's Sacred Lands File search did not identify the presence of documented Native American resources within the APE. An intensive-level pedestrian survey was conducted of the entire APE, no previously unrecorded resources were encountered. All work would occur in the existing public ROW, within soils that have been likely subject to substantial previous disturbance for road construction and other existing utilities. Based on these results, no known significant cultural resources will be impacted by the project as currently designed. In general, the APE appears to be of low sensitivity for supporting the presence of buried prehistoric archaeological sites and no additional archaeological work, including moniroign, appears to be necessary. Management recommendations for addressing potential impacts related to the inadvertent discovery of cultural resources and human remains are provided. With these recommendations appropriately implemented, the project would result in a less-than-significant impact to cultural resources (No Historic Properties Affected).

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1 Introduction

1.1 Project Location and Description

The project area is located east of State Route 49/Coloma Road and north of State Route 193 in the vicinity of Cool in the northwestern portion of El Dorado County, California (see Figure 1). The survey area is located in Township 12N, Range 9E, and Sections 7, 8, 17, and 18 of the "Auburn, CA" and "Greenwood, CA" U.S. Geological Survey (USGS) 7.5-minute quadrangles. The approximate center of the project site corresponds to 38° 53' 44.11954" north latitude and - 121° 0' 18.52051" west longitude.

The purpose of the El Dorado County Middle-Mile Fiber Project is to build middle-mile fiber optic infrastructure within the three project areas of Cool, Garden Valley, and Georgetown.

El Dorado County conducted a Broadband Needs Assessment and Feasibility Study in 2019 which identified several areas within the County that lacked sufficient broadband service and were identified as "priority" areas. The proposed project would construct middle-mile fiber infrastructure for parts of Cool, Garden Valley, and Georgetown (see Figure 2).

The fiber optic routes pass commercial and industrial parcels, residential areas, and important public and private facilities. Although the last-mile connections to residential, commercial, and industrial parcels are not included in the proposed project, there will be handholes, vaults, and splice points installed along the route so that businesses and residences, in the future, can connect to the network once it is installed.

The final design and route layout of the network has not been completed; however, major roads and highways will be used for the routes, using existing public rights-of-way. No right-of-way acquisition would be required. Staging areas would be within public rights-of-way or previously developed public property (such as corporation yards, parking lots, etc.). The fiber optic lines would be installed using directional boring. Typical depth would be 18" below surface, or lower if needed to avoid other utilities. Surface disturbance would therefore be minimal.

The project's direct archaeological APE, as represented by areas that may be subject to direct disturbance by the project, is the public ROW, consisting of the lines shown on the APE map and a 10 ft buffer on either side (Figure 2, APE Map). The final design and route layout of the network has not been completed; however, major roads and highways will be used for the routes, using existing public rights-of-way. No ROW acquisition would be required. Staging areas would be within public ROW or previously developed public property (such as corporation yards, parking lots, etc.). The fiber optic lines would be installed using directional boring. Typical depth would be 18" below surface, or lower if needed to avoid other utilities. Surface disturbance would therefore be minimal. For the purposes of providing management recommendations, the vertical APE, as represented by the maximum depth of disturbance, is assumed to be 15 feet below the existing ground surface although most work will be 3 feet in depth or shallower. The present report will be updated once the design has been further refinedIn preparation for the project, Dudek was contracted to perform a Phase I cultural resource inventory.

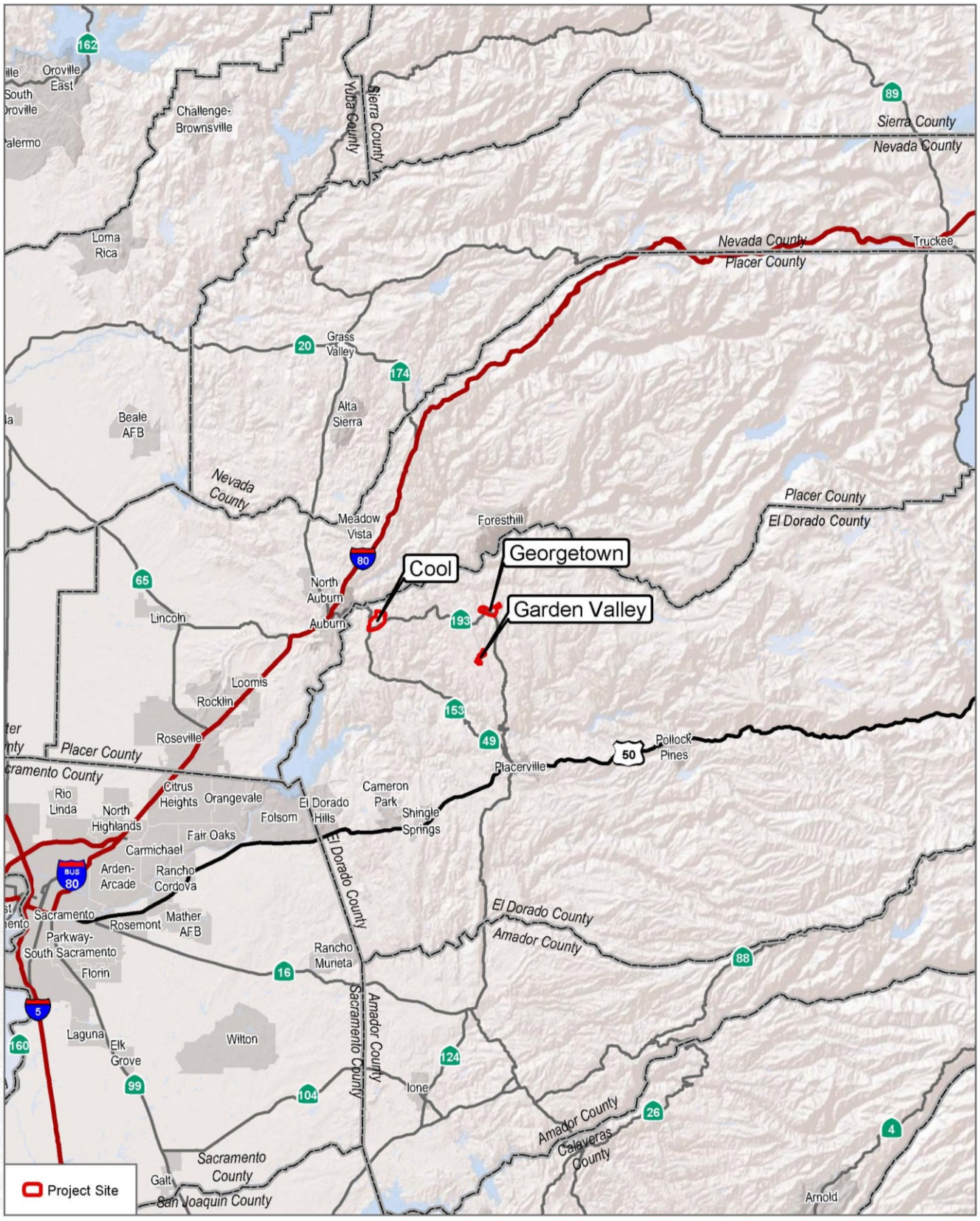
This inventory was conducted in compliance with the California Environmental Quality Act (CEQA). Due to jurisdictional waters considerations and anticipated review by the U.S. Army Corps of Engineers (USACE), this

inventory has been completed to standards and requirements meeting compliance with Section 106 of the National Historic Preservation Act (NHPA).

1.2 Report Structure and Key Personnel

This report is divided into seven chapters. Following this introduction, Chapter 2 reviews the natural environment and the cultural context, and Chapter 3 provides the methods used to complete the current inventory. The records search, survey results, and tribal correspondence are discussed in Chapter 4. Chapter 5 provides a cultural resources effects analysis and evaluation of the newly identified site. Chapter 6 summarizes the cultural resources work completed for this project to date, and provides recommendations for further management of cultural resources, consistent with CEQA and Section 106 of the NHPA. Chapter 7 provides a list of references cited throughout this report. Several appendices are attached to this report. Appendix A includes confidential records search results, Appendix B contains confidential Native American Heritage Commission (NAHC) correspondence documents, and Appendix C contains the resumes of key personnel.

Dudek archaeologist Ross Owen, MA, RPA, conducted the intensive pedestrian survey. Mr Owen and Nicholas Hanten, MA, drafted the technical report. Adam Giacinto, MA, RPA acted as principal investigator, prepared management recommendations, and finalized the technical report. All archaeologists meet the Secretary of the Interior's standards for archaeology, and have extensive experience working within local, state, and federal regulatory contexts.



SOURCE: ESRI 2021

DUDEK

0 26,250 52,500 Feet

FIGURE 1

Regional Map

El Dorado Fiber Optics

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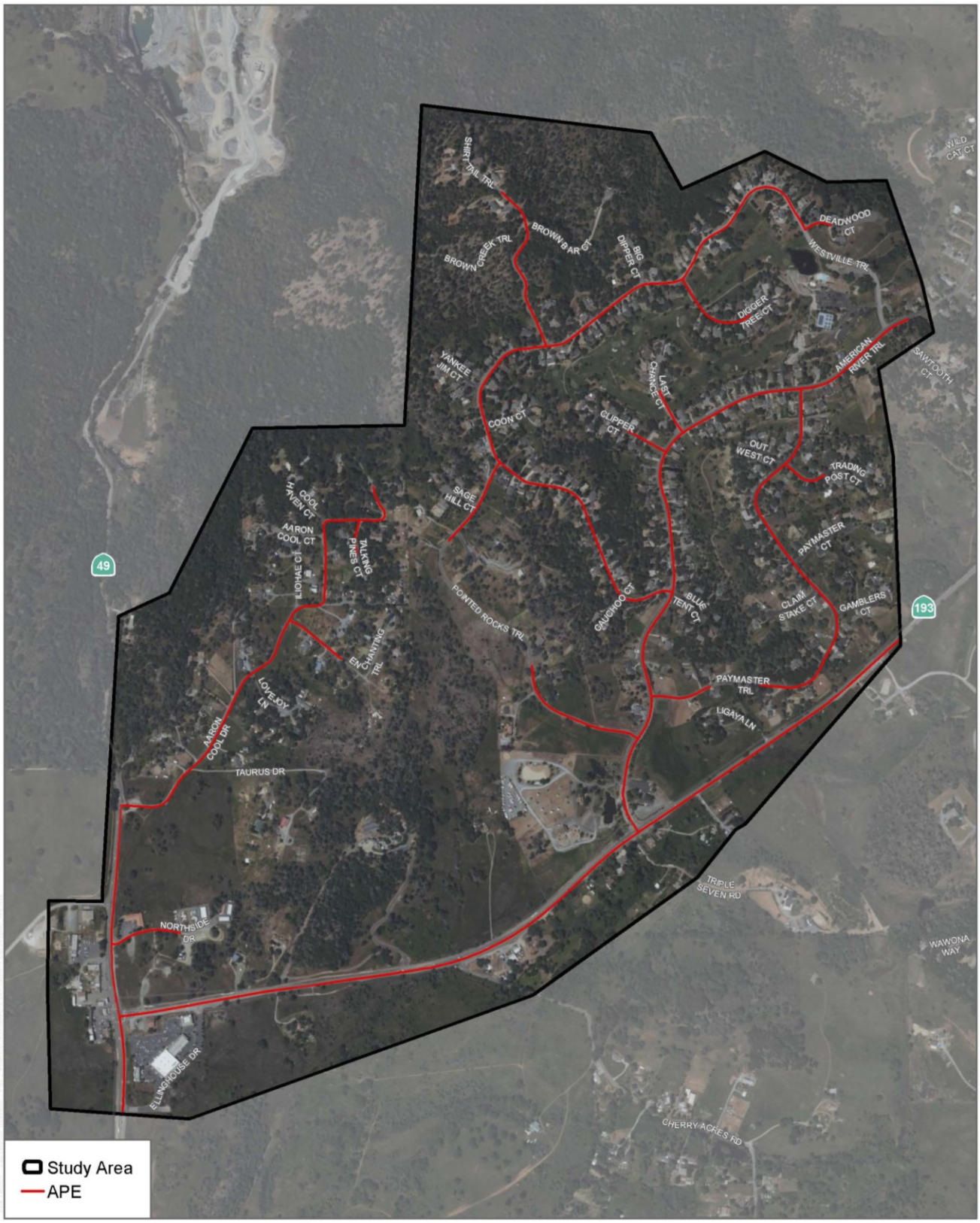

SOURCE: El Dorado County 2018, Bing Maps (Accessed 2021)

DUDEK 0 500 1,000 Feet

FIGURE 2A

APE (Area of Potential Effects)

El Dorado Fiber Optics

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SOURCE: El Dorado County 2018, Bing Maps (Accessed 2021)

DUDEK 0 337.5 675 Feet

FIGURE 2B

APE (Area of Potential Effects)

El Dorado Fiber Optics

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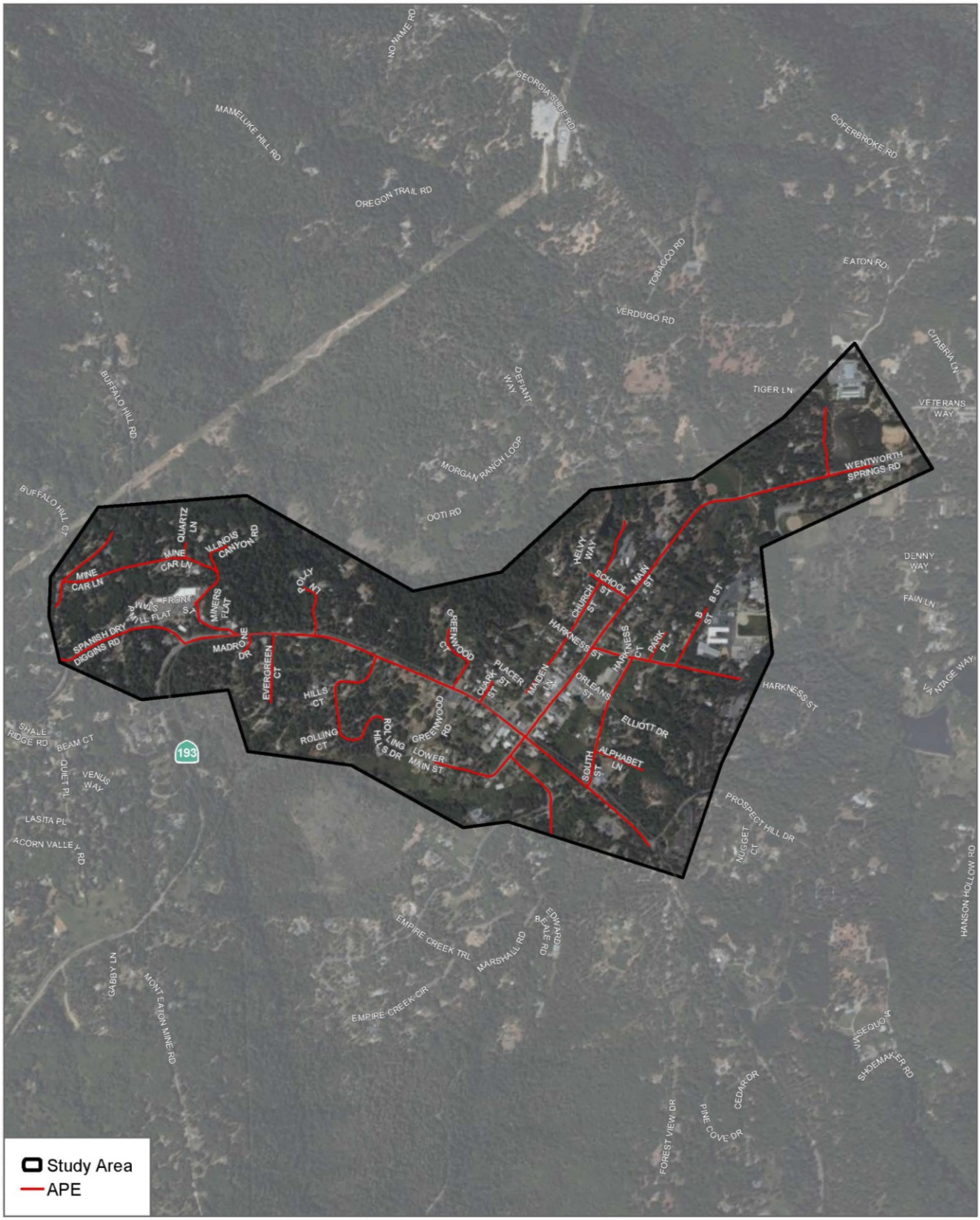

SOURCE: El Dorado County 2018, Bing Maps (Accessed 2021)

DUDEK 0 625 1,250 Feet

FIGURE 2C

APE (Area of Potential Effects)

El Dorado Fiber Optics

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1.3 Regulatory Context

The current cultural resources investigation was completed to satisfy CEQA and Section 106 of the NHPA.

1.3.1 National Historic Preservation Act

The National Register of Historic Places (NRHP) is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service under the U.S. Department of the Interior, the NRHP was authorized under the NHPA, as amended. Its listings encompass all National Historic Landmarks and historic areas administered by the National Park Service.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded, or may be likely to yield, information important in prehistory or history.

Integrity is defined in NRHP guidance as "the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have integrity" (NPS 2009). NRHP guidance further asserts that properties must have been completed at least 50 years before evaluation to be considered for eligibility. Properties completed fewer than 50 years before evaluation must be proven to be "exceptionally important" (criteria consideration G) to be considered for listing.

A historic property is defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the NRHP criteria" (36 CFR Sections 800.16[i][1]).

Effects on historic properties under Section 106 of the NHPA are defined in the assessment of adverse effects in 36 Code of Federal Regulations (CFR) Sections 800.5(a)(1):

> An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

Adverse effects on historic properties are clearly defined and include the following (36 CFR 800.5 [2]):

(i) Physical destruction of or damage to all or part of the property;

(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines;

(iii) Removal of the property from its historic location;

(iv) Change of the character of the property's use or of physical features within the property's setting that contributes to its historic significance;

(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

To comply with Section 106, the criteria of adverse effects are applied to historic properties, if any exist in the project's APE, pursuant to 36 CFR Sections 800.5(a)(1). If no historic properties are identified in the APE, a finding of "no historic properties affected" is made. If there are historic properties in the APE, application of the criteria of adverse effect will result in project-related findings of either "no adverse effect" or "adverse effect." A finding of no adverse effect may be appropriate when the undertaking's effects do not meet the thresholds in criteria of adverse effect found in 36 CFR Sections 800.5(a)(1), in certain cases when the undertaking is modified to avoid or lessen effects, or if conditions were imposed to ensure review of rehabilitation plans for conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (codified in 36 CFR Part 68).

If adverse effects findings are expected to result from a project, mitigation would be required, as feasible, and resolution of those adverse effects by consultation may occur to avoid, minimize, or mitigate adverse effects on historic properties pursuant to 36 CFR Part 800.6(a).

1.3.2 California Register of Historic Resources and CEQA

In California, the term "historical resource" includes "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering,

scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1[j]). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP. According to California Public Resources Code (PRC) Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Is associated with the lives of persons important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- Has yielded, or may be likely to yield, information important in prehistory or history.

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. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see California Code of Regulations, Title 14, Section 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are State Landmarks and Points of Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource." It also defines the circumstances when a project would materially impair the significance of an historical resource.
- PRC Section 21074(a) defines "tribal cultural resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated cemetery.

PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites

because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site.

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; CEQA Guidelines Section 15064.5[b]). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1[q]), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 15064.5[a]). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; CEQA Guidelines Section 15064.5[a]).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5[b][1]; PRC Section 5020.1[q]). In turn, the significance of a historical resource is materially impaired when a project does any of the following (CEQA Guidelines Section 15064.5[b][2]):

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]).

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.

- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2[a]; CEQA Guidelines Section 15064.5[c][4]). However, if a non-unique archaeological resource qualifies as a tribal cultural resource (PRC 21074[c]; 21083.2[h]), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.

California Health and Safety Code

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains can occur until the county coroner has examined the remains (Section 7050.5b). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the California NAHC within 24 hours (Section 7050.5c). The NAHC will notify the most likely descendant. With the permission of the landowner, the most likely descendant may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the most likely descendant by the NAHC. The most likely descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

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2 Project Context

2.1 Environmental Context

The survey area is located within the northern Sierra Nevada. Elevations in the project area range from approximately 1,400 to 1,700 feet above mean sea level. Topography consists of gently sloping valleys and hillsides. The region surrounding the survey area receives an annual average of approximately 31.89 inches of precipitation and 2.6 inches of snowfall (WRCC 2021a). Average temperatures range from approximate 45.4 to 70.8 degrees Fahrenheit (WRCC 2021b).

The survey area is dominated by urban and rural residential development within oak woodland, primarily comprised of ornamental landscaping and horse pastures. Auburn Lake Trails is a gated community located centrally within the survey area that contains many miles of hiking and equestrian trails, a golf course, clubhouse, and other developed amenities. Rocky serpentine outcroppings occur along Pointed Rocks Trail. The right-of-way experiences regular maintenance activities (e.g., mowing and clearing) and where present, vegetation consists of non-native annual grasses and forbs. Multiple aquatic or riparian resources are present, including ephemeral and intermittent drainages, ditches, and canals with overhanging willow thickets. The mixed oak woodland supports a variety of species, such as blue oak (*Quercus douglasii*), interior live oak (*Q. wislizenii*), black oak (*Q. kelloggii*), California foothill pine (*Pinus sabiniana*), California buckeye (*Aesculus californica*), Pacific madrone (*Arbutus menziesii*), toyon (*Heteromeles arbutifolia*), and manzanita (*Arctostaphylos* spp.). Wetland plants found along streams or within wetlands include red willow (*Salix laevigata*), elm-leaf blackberry (*Rubus ulmifolius*), and narrowleaf cattail (*Typha angustifolia*).

2.2 Cultural Context

Various attempts to parse out information provided through recorded archaeological assemblages from throughout California for the past 12,000 years have led to the development of several cultural chronologies. Some of these are based on geologic time, most are interpreted through temporal trends derived from archaeological assemblages, and others are interpretive reconstructions. Each of these chronologies describes essentially similar trends in assemblage composition in more or less detail. California's archaeological assemblage composition is generally accepted as falling within the following overarching patterns: Paleoindian (pre-5500 BC), Archaic (8000 BC – AD 500), Late Prehistoric (AD 500–1750), and Ethnohistoric (post-AD 1769).

Occupation of the Sierra is likely to have occurred at least 9,000 years ago, however, only a handful of Paleoindian Period lithic bifacial points have been recorded. The nearest of these fluted points were found in Sierra Valley (west of Reno, Nevada; Foster and Betts 1995), Ebbett's Pass (south of Lake Tahoe; Dillon 2002), and at the Sailor Flat site (in the Tahoe National Forest; Wohlgemuth 1984). Fluted points from this area have generally been recorded as isolated finds, or recovered from contexts of mixed provenience. The primary examples of the Paleoindian pattern, to which such fluted and stemmed points are generally assigned, have been recorded east of the Sierra Nevada. The typical assemblage includes large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Some of the most pertinent of such sites were studied by Emma Lou Davis (1978) on China Lake Naval Air Weapons Station, near Ridgecrest,

California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single component Great Basined Stemmed point site (Basgall et al. 2002). At MNO-679 and MNO-680, groundstone tools were rare while finely made projectile points were common.

While the limited available data relating to the earliest occupation in the region has provided for a relatively broad and consistent interpretation of the Paleoindian Period, subsequent prehistoric temporal sequences are much more geographically defined and variable due to the greater amount of available data. The Tahoe Reach is currently the most commonly applied cultural temporal sequence within the region. This draws from regional syntheses primarily developed by both Heizer and Elsasser (1953) and Elston, Davis, and Townsend (1977). The sequence includes the Washoe Lake Phase, Tahoe Reach Phase, Spooner Phase, Martis Complex, and Kings Beach Complex (Hull 2007; Moratto 1984, 1999). Of these, the Martis Complex and the Kings Beach Complex are most applicable to the current project area.

2.2.1 Martis Complex (3000 B.C.–A.D. 500)

The Martis complex has been identified to extend from Lassen County to Alpine County (Elsasser 1960). The date range, 3000 B.C. to approximately 500 A.D. has been substantiated by obsidian hydration and radiocarbon dates provided by Elsasser (1960). Subsistence during the Martis Complex was based on hunting and seed collecting economy, with highly mobile populations that exploited both upper and lower regions based on the relative seasonal abundance of resources. Projectile points are variable during this period, and were most commonly heavy with low formality, providing some resemblance to those identified in the Great Basin regions. Temporally representative tools include finger-held drills or punches, retouched volcanic flake scrapers, spokeshave-notched tools, and large biface blades and cores (Hull 2007). During this period there is a more intensive exploitation of local materials, rather than non-local cherts and obsidian, for the manufacture of formed flaked tools.

2.2.2 Kings Beach Complex (A.D. 500–Historic Contact)

Similar to the Martis Complex, the Kings Beach Complex was characterized by populations that migrated between upper areas in the warmer months and lower elevations during the fall and winter. Subsistence during this period shifted toward a focus on fishing and gathering. A reduction in size and weight of projectile points corresponded with adoption of bow and arrow technology. Typical point forms within this region included Desert Side-notched, Cottonwood, and Rosegate series (CRM 2011). Obsidian and chert replaced volcanic materials such as basalt as the preferred materials for the manufacture of lithic tools. As both high quality cherts and obsidian are not local, the greater presence of such exotic materials suggests that there was an increase in trade with neighboring tribes during this period.

The Kings Beach Complex additional included a greater reliance on exploitation of acorns. This trend is exemplified by the increased presence of bedrock mortars and pestles formed from local cobbles. It should be noted that while bedrock mortars were predominantly used for crushing and grinding acorns, they were also employed for the processing of a variety of other foods, including deer meat, camas roots and seeds (CRM 2011). While the creation of mortars indicated a relatively high investment of time and energy, such bedrock milling features are just as frequently found at sites with limited-to-no subsurface cultural deposits as at intensive use occupation areas with well-developed midden soils.

2.2.3 Ethnohistoric (post-AD 1750)

The region surrounding the project area would have been in Hill Nisenan (also known as the southern Maidu) tribal territory during the ethnohistoric period (Wilson and Towne 1978). This group inhabited the Yuba, Bear, and American river watersheds, extending from the Sierra Nevada summit to the Sacramento River. Ethnographic work, most prominently conducted by Stephen Powers in the 1870s, writes of a relatively high population of indigenous inhabitants in this region (1877). Notably, Powers identified 18 named villages alone along the Bear River, further suggesting that there may have been a larger portion of villages that he had no knowledge of. This was substantiated by interviews conducted by Hugh Littlejohn in 1928, who recorded a number of additional named habitation areas (Carlson 1986).

Nisenan habitation areas were most commonly situated near primary drainages and along ridgelines with mild slopes and south-facing exposures (Wilson and Towne 1978). Traditional village features included bedrock milling stations, granaries, conical house structures, as well as sweat and ceremonial houses. The dead were typically cremated and buried within the boundaries of the habitation area. Tribal groups included extended and unmarried relatives. Groups of Hill Nisenan did have defined chiefs, however, these individuals were chosen based on wealth and popularity rather than hereditary decent (Kroeber 1925). Intra-tribal boundaries overlapped, with natural resources being shared relatively freely between tribelets (Carlson 1986). Inter-tribal conflict did occur over resources, and the Hill Nisenan would attack small hunting parties of Washoe that encroached too far into their territory.

The Nisenan subsistence strategy was centered on fishing, hunting, and collecting vegetative resources. This group was highly mobile, with larger central habitation areas and surrounding satellite sites used during hunting excursions and for pre-processing of collected plant resources such as acorns. Common food items included deer, rabbits, birds, bear, rodents, other mammals of small and moderate size, as well as various insects. Deer were sometimes partially processed using mortar and pestle (Kroeber 1925). A ceremony among the Hill Nisenan involved the hunting of a bear during hibernation season. Common tools included the bows and arrow, traps, harpoons, hooks, nets, portable and stationary grinding implements, and pestles and handstones. A number of goods were made using fibrous plants, including canoes constructed tule balsa or logs. Imported items included shell ornaments and beads (particularly disk beads as a monetary unit), green pigment, tobacco, steatite items, and obsidian (Wilson and Towne 1978). Exported items included bows and arrows, animal skins, pine nuts, and other local resources (Kroeber 1925).

Central California indigenous populations derived their linguistic roots from a common Penution stock. The degree of internal variation among these three decedent language groups (Yokution, Maiduan, and Wintuan) is similar to Indo-European, suggesting a time depth of approximately 6,500 years (Golla 2007). The Nisenan spoke one of four closely related Maiduan languages, including Konkow, Chico Maidu, Mountain Maidu, and Nisenan. Shared Hokan phonological and morphological substratal components identified within all Maiduan languages indicate past interactions between these two language populations (Hokan time depth is approximately 8,000 years). Maiduan language structure suggests that all four Maiduan languages were descended from the same proto-Maiduan speaking population to the north. The most likely scenario is that these populations spread southward in the last last1,200 years, with the Nisenan encroaching into area previously occupied by Miwok tribal groups sometime in the past few centuries (Golla 2007). This later population movement is further substantiated by the high frequency of Miwok loan words found within Nisenan vocabulary, a trait that is not shared with the other three Maiduan languages.

2.2.4 The Historic Period

Spanish Period (1769–1822)

Gaspar de Portolá entered the San Francisco Bay in 1769. Additional explorations of the San Francisco Bay and the plains to the east were conducted by Father Pedro Fages in 1772 and Juan Bautista De Anza in 1776 (Grunsky 1989). In 1808, Lieutenant Gabriel Moragain led the first Spanish expedition into the Sacramento Valley. This group explored areas along the American, Calaveras, Cosumnes, Feather, Merced, Mokelumne, Sacramento, and Stanislaus river watersheds. The most recent Spanish expedition into this region was conducted by Luis Arguello in 1817. This group traveled up the Sacramento River to the mouth of the Feather River (Grunsky 1989).

Spanish missionization of Alta California was initiated in San Diego 1769. A total of 21 missions were constructed by the Dominican and Franciscan orders between 1769 and 1823. Missions in the region included San Francisco de Asís (1776), Santa Clara de Asís (1776), San José de Guadalupe (1797 in Alameda County), San Rafael Arcángel (1817 in Marin County), and San Francisco Solano (1823 in Sonoma County; Grunsky 1989)). While missionization had a detrimental effect on tribes throughout the region, there is no record of forcible transport of Nisenan communities by the Spanish to the missions (Wilson and Towne 1978).

Mexican Period (1822–1848)

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s caused further disruptions to native populations. Following the establishment of the Mexican republic, the government seized many of the lands belonging to Native Americans, providing them as parts of larger Land Grants to affluent Mexican citizens and rancheros. Captain John Sutter was granted the two largest areas of land in the Sacramento Valley area. Sutter founded New Helvetia, a trading and agricultural empire, in 1839. The headquarters was located within Valley Nisenan territory at the confluence of the Sacramento and American rivers. The 1833 Secularization Act passed by the Mexican Congress ordered half of all mission lands to be transferred to the Indians, and the other half to remain in trust and managed by an appointed administrator. These orders were never implemented due to several factors that conspired to prevent the Indians from regaining their patrimony.

American fur trappers and traders conducted a number of exploratory intrusions into west Sierra Nevada Mexican territory. Notably, in 1826, Jedediah Smith led a small party of trappers in an expedition along the Sierra Nevada range, eventually entering the Sacramento Valley in 1827. This group covered the area along the American and Cosumnes rivers. From these travels, maps of this inhospitable terrain were created and disseminated, providing for the waves of European prospectors, ranchers and settlers that would come in the following decades (Grunsky 1989).

American Period (Post 1848)

The following section has been borrowed with permission from the Bureau of Reclamation from *Cultural Resources Survey for the Closure of Eight Abandoned Mines in the Oregon Hill Area of Auburn State Recreation Area, Placer County, California* (2010):

California has been inexorably shaped by the mining of precious metals and other minerals. The discovery of gold in January of 1848 at Sutter's Mill in Coloma, on the South Fork of the American River, led to extensive and enduring changes to California's physical and cultural landscapes. The following historic context is restricted to the origins and effects of mining in the American River Basin, with a particular focus on the Auburn area where the current project is located.

The California gold rush prompted by news of the find at Sutter's Mill led to what has been characterized as "the greatest mass migration in American history" (Costello and Marvin 2002:16). Within months of the initial discovery, gold was being collected in the gravel bars of the North, Middle, and South Forks of the American River, and extensive placer mining was occurring in nearly every adjacent gulch and ravine. The effects of these activities are still evident in the form of tailings, ditches, and other mining features scattered throughout these areas. Mining can also be credited for the location and names of most of the towns and communities in the region, the placement of early transportation and communication corridors between the western Sierra Nevada, Sacramento, and San Francisco, and the subsequent development of agriculture and ranching throughout the foothills (Costello and Marvin 2002; Homer 1988).

Gold was first encountered in the Auburn area on May 16, 1848, when Claude Chana, en route to the mining camp at Sutter's Mill in Coloma with a company of three fellow Frenchmen and 25 Nisenan, made his initial discovery in Auburn Ravine. For the remainder of May, Chana and his group continued to pan for gold just south of what is today the city of Auburn (Davis 1975; Homer 1988). A lack of experience, and word of greater gold discoveries on the Yuba River, resulted in the abandonment of the Auburn area by Chana's group. Other miners, however, soon arrived to take their place. By the summer of 1949, what had been unblazed territory was transformed into a small community of wood and fabric buildings, originally known as North Fork Dry Diggings. Sometime between the summer and fall of 1849, the rapidly growing settlement was given the "more euphonious name" of Auburn (Davis 1975:6). In 1851, the California legislature carved Placer County from portions of Sutter and Yuba Counties, and named Auburn as the new county's seat (Homer 1988).

Oxcart and stagecoach routes were soon established in the area, providing for the transport of people, supplies, and gold between Auburn, Sacramento and San Francisco. Situated at "the crossroads of the mother lode" (Homer 1988:28), Auburn came to serve as a financial center as well. In 1860, Auburn residents voted to provide a $50,000 subsidy to bring the Sacramento, Placer and Nevada Railroad to the town. The railroad was built to within five miles of Auburn when construction was suspended as the push to build Central Pacific's segment of the transcontinental railroad through the Sierras took precedence. Despite the termination of the Sacramento, Placer and Nevada line, Auburn's position as a supply and transportation center continued to grow (Davis 1975).

As the allure of gold mining declined, agriculture and ranching in the foothills, and the timber industry at higher elevations, became more prominent and productive economic pursuits in the region (Davis 1975). During the Great Depression, however, small scale placer mining, using Gold Rush era techniques and technologies, made a brief reappearance. Depression-era miners either reworked old diggings in formerly mined area or moved into previously unmined locations, often on public lands. The second all-time high of gold production in California, totaling some $50.9 million, occurred during this period.

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3 Research Methods

The Secretary of the Interior has issued Standards and Guidelines for Archeology and Historic Preservation (48 FR 44720–44726), which are used for the identification and evaluation of historic properties and to ensure that the procedures are adequate and appropriate. The identification and evaluation of historic properties are dependent upon the relationship of individual properties to other similar properties (NPS and ACHP 1998, pp. 18–20). Information about properties regarding their prehistory, history, architecture, and other aspects of culture must be collected and organized to define these relationships (NPS 2009), which is the intent of the current inventory.

This investigation consisted of a records search at the North Central Information Center (NCIC), Sacramento State of the project site and a 0.5-mile radius around the project site. Following Bureau of Land Management precedents, which are appropriate for federal projects, survey techniques are loosely grouped into two categories: reconnaissance and intensive (BLM 2004; NPS 2009). The choice of survey category depends on the level of effort required for a particular project, which can vary depending on the nature of the properties or property types, the possible adverse effects on such properties, and agency requirements (NPS and ACHP 1998). The selection of field survey techniques and level of effort must be responsive to the management needs and preservation goals that direct the survey effort. For any survey, it is important to consider the full range of historic properties that may be affected, either directly or indirectly, and consider strategies that will minimize any adverse effects and maximize beneficial effects on those properties (BLM 2004; NPS 2009; NPS and ACHP 1998).

The current survey methods can be classified as intensive because short-interval transect spacing and full documentation of cultural resources were completed. Survey staff exceed the applicable Secretary of Interior's Professional Qualifications Standards for archaeological survey. Dudek archaeologists surveyed the entire project APE with transects spaced no more than 15 meters apart and oriented along the project alignment. A GPS receiver with sub-meter accuracy and loaded with a shapefile of the project boundary was used to verify the accuracy of the survey coverage. Evidence for buried cultural deposits was opportunistically sought through inspection of natural or artificial erosion/excavation exposures and the spoils from rodent burrows. After completion of pedestrian survey, limited subsurface sampling was performed using a 5-centimeter-diameter auger to probe for buried cultural deposits and reveal soil stratigraphy in several areas of the APE. Field recording and photo documentation of resources were completed as appropriate.

Historic research was also performed to better understand the history of land use of the project area. This research consisted of reviewing historic topographic maps and aerials (NETR 2020a, 2020b; UCSB 2018). Documentation of cultural resources complied with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716–44740), and the California Office of Historic Preservation Planning Bulletin Number 4(a), December 1989, Archaeological Resource Management Reports: Recommended Contents and Format for the Preparation and Review of Archaeological Reports. All cultural resources identified during this inventory were recorded on California Department of Parks and Recreation (DPR) Form DPR 523 (Series 1/95), using the Instructions for Recording Historical Resources (Office of Historic Preservation 1995), including updates to previously recorded resources.

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4 Results

This section presents the results of the records search and the field survey of the current study.

4.1 Records Search Results

A records search was completed for the project APE and a 0.5-mile buffer by staff at the NCIC at California State University Sacramento on May 17, 2021. The record search results are presented below for each of the three Study Areas.

4.1.1 Cool

The records search identified 47 previous studies performed within the records search area; of these, 12 cover at least a portion of the APE (Table 1.1 and Confidential Appendix A).

Table 1.1 Previous Cultural Resource Studies Within 0.5 Miles of APE

Report ID	Year	Author(s)	Title
Reports Intersecting the APE			
000578	1980	Dondero, Steven B., Lee Motz, and Michael F. Rondeau	An Archaeological Survey of the Proposed Auburn Lake Trails Sewerage Project, El Dorado County, California.
007378	2000	Historic Resource Associates	Cultural Resources Study for the Proposed Cool Exxon/Chevron Mini-Mart/Taco Bell Express in Cool
007381	1992	Supernowicz, Dana E.	Archaeological Survey Report fof the Brown-Threlkel Ranch; A Proposed Development at Cool, El Dorado County, CA
007383	1992	Supernowicz, Dana E.	Archaeological Survey Report of Assessor's Parcel No. 71:090:77; A Proposed Development at Cool El Dorado County, CA.
008084	1987	Bass, Henry O.	Historic Property Survey Report for a Proposed Roadway Improvement Project on State Highway 49 Between Pilot Hill and Cool, El Dorado County, California 03-ED-49 Post Mile 31.3/34.8
008084B	1986	Wayne C. Wiant and Henry O. Bass	Archaeological Survey Report for a Proposed Roadway Improvement Project on State Highway 49 Between Pilot Hill and Cool, El Dorado County, California
008084C	1987	Denise O' Connor	Historical Architectural Survey Report for a Proposed Roadway Improvement Project on State Highway 49 Between Pilot Hill and Cool, El Dorado County, California
008086	1997	Windmiller, Ric and Russell, Jane	Cultural Resources Inventory Pilot Hill Ranch Water Treatment Facility and Off-Site Water Line Corridors, El Dorado County, California
008707	2007	Kelly Long	An Archaeological Survey Report for the Fuel Treatment on Auburn Lake Trails POA Private Lots, El Dorado County, California

Table 1.1 Previous Cultural Resource Studies Within 0.5 Miles of APE

Report ID	Year	Author(s)	Title
009001	1991	Dana Supernowicz	Archaeological Survey Report of Assessors Parcel No. 71-03-17 A Parcel Split Near Cool, El Dorado County, California
009326	2008	Laura Leach-Palm, Bryan Larson, Paul Brandy, Jay King, Lindsay Hartman, and Pat Mikkelsen	Cultural Resources Inventory of Caltrans District 3 Rural Conventional Highways in Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo, and Yuba Counties
013004	2017	Trish Fernandez and Kayla V. Weatherbee	Archaeological Survey Report for the American River Canyon Perimeter Shaded Fuel Break Continuation Project, Cool, CA
Reports within 0.5 Miles of the APE			
007385	1992	Supernowicz, Dana E.	Archaeological Survey Report of Assessors Parcel No. 71-28-51; A Parcel Split Near Cool
007387	1993	Supernowicz, Dana E.	Archaeological Survey Report of Assessor's Parcel No. 71:090:26; A Proposed Development at Cool
007388	2001	Billat, Lorna B.	Gillespie (CA-0487IS)
007389	2004	Historic Resource Associates	Cultural Resources Study of APN 071:091:47 Cool Country Office Building in Cool
007390	2004	Billat, Lorna	Cool/CA-3006A
007394	2002		Historic Property Survey Report for the Proposed Culvert Replacement Project in 53 Locations on 6 Routes in 5 Counties Within District 3, CALTRANS
007394B	2002	Jody Brown	Negative Archaeological Survey Reports for the Proposed Culvert Replacement Project in Fifty-Three Locations on Six Routes in Five Counties Within District 3
007394C	2001		Historic Resource Evaluation Report For Three Culvert Construction Projects in Yolo County, Esparato, S.R. 16, P.M. 28.10. Glen County, S.R. 162, P.M. 48.56, Sierra County, S.R. 49, P.M. 32.32
007997	2006	Peak, Melinda, Ann Peak, and Mike Lawson	Cultural Resources Assessment of the Threlkel Parcel Split, APN 071-310-19-100, Cool Vicinity, El Dorado County, California
009690	2003	N. Chris Waters	An Archaeological Survey Report for the Auburn Lake Trails Fire Safe Project
009698	2008	Historic Resouce Associates	Cultural Resources Study of Assessors Parcel No. 071:500:35, Cool, El Dorado County, California 95614
010340	2009	L. Kyle Napton, Ph.D. and E.A. Greathouse, M.A.	Archaeological Investigations of the Auburn Lake Trails 2009 Vegetation Management Plan, El Dorado County, California
010547	2009	Melinda Peak	Historic Property Survey Report for the Northside Bicycle Path Project
010547B	2009	Melinda A. Peak	Archaeological Survey Report and Extended Phase I Report for the Northside Trail Project, El Dorado County, California
010547C	2008	Melinda A. Peak	Extended Phase I (XPI) Testing Proposal, CAL-ELD-2374-H, Northside Bike Path Project
010547D	2009	Melinda A. Peak	Historical Resources Evaluaton Report for the Northside Trail Project

Table 1.1 Previous Cultural Resource Studies Within 0.5 Miles of APE

Report ID	Year	Author(s)	Title
010728	2010	Hines, Philip	Cultural Resource Survey for Cool Parking Lot Gate Relocation Project
012679	2017	Carrie D. Wills	CVL03175 (Pilot Hill 2)
012808	1994	Dana Supernowicz	Archaeological Survey Report of APN. 71:280:32 North of Ranch Creek Road Near Cool, El Dorado County, California
000578B	1980	Derr, Eleanor H.	Auburn Lake Trails Sewerage System: Addendum Report.
000728	1991	Supernowicz, Dana E.	Archaeological Survey Report of a Tentative Parcel Map P91-03, A Parcel Split Near Cool, El Dorado County, California.
000730	1992	Peak & Associates, Inc.	Cultural Resource Assessment of Lot 57 of Cherry Acres, Near Cool, El Dorado County, California.
000731	1990	Russell, Gayle	Archaeological Survey Report of Parcel 1 Division Assessors Parcel Map 32/49, Near Cool, El Dorado County, California.
000732	1990	Supernowicz, Dana E.	Archaeological Survey Report of Assessors Parcel Number 71:090:27 Near Cool, El Dorado County, California.
000733	1982	Bass, Henry O.	Archaeological Survey Report for the Proposed Knickerbocker Creek Bridge Replacement Project on State Route 49 Located One-Half Mile South of Cool, El Dorado County, 03-ED-49, PM 34.1.
000734	1990	Offermann, Janis	Department of Transportation, Addendum Negative Archaeological Survey Report, 03-ED-49, PM 35.4/36.3.
001306	1992	Supernowicz, Dana	Archaeological Survey Report of the Wakelee Property A Parcel Near Cool, El Dorado County, California.
006576	2002	Costello, Julia and Marvin, Judith	Results of Phase II test Excavations at the Mountain Quarries Site: Historic Component of CA-ELD-616/H near Cool , El Dorado County
006576B	2002	Rosenthal, Jeffrey and Waechter, Sharon	Results of Phase-II Test Excavations at CA-ELD-616/H near Cool, Western El Dorado County
006803	1978	True, D. L. and Harvey Crew	Archaeological Surveys Auburn-Folsom: South Side of Middle Fork of the American River: Unit 7
006812	1976	True, D. L. and Harvey Crew	Archaeological Surveys Auburn-Folsom, Knickerbocker Tract, Part I
006813	1976	True, D. L. and Harvey Crew	Archaeological Surveys Auburn-Folsom Knickerbocker Tract, Part II
006815	1975	True, D. L. and Peter Jensen	Archaeological Investigations in the Auburn-Folsom Reservoir Basin, Site Evaluations and Surveys: Phases I and II
006815B	1976	True, D. L.	Archaeological Evaluation of Cultural Resources in a Portion of the American River Canyon: Auburn-Folsom Project
007373	1988	Offerman, Janis K.	An Archaeological Survey for a Proposed Curve Correction on State Route 49

The records search identified one cultural resource within the APE, 8 within the Study Area, and an additional 6 cultural resources within 0.5 miles of the Study Area (Table 2.1 and Confidential Appendix B).

Table 2.1 Previously Recorded Cultural Resources – Cool

Primary Number	Trinomial	Name	Type	Age	Attributes
Previously Recorded Sites Intersecting the Study Area and APE					
P-09-003632	CA-ELD-002375H		Building, Structure	Historic	Landscaping; Standing structure; Ancillary building; Farm/ranch
Previously Recorded Sites Intersecting the Study Area Only					
P-09-000521	CA-ELD-000433		Site	Prehistoric	Lithic scatter; Bedrock milling feature; Rock shelter
P-09-000523	CA-ELD-000435		Other	Prehistoric	Bedrock milling feature
P-09-000524	CA-ELD-000436		Other	Prehistoric	Bedrock milling feature
P-09-003627	CA-ELD-002370/H	Cool Multi-Component Site	Site	Prehistoric, Historic	Foundations/structure pads; Quarry; Multiple family property; Educational building
P-09-003629	CA-ELD-002372H		Site	Historic	Foundations/structure pads; Dumps/trash scatters
P-09-003631	CA-ELD-002374H		Site	Historic	Foundations/structure pads; Landscaping/orchard; Dumps/trash scatters; Water conveyance system; Walls/fences
P-09-003633	CA-ELD-002376H		Site	Historic	Foundations/structure pads; Dumps/trash scatters; Walls/fences; HP98
P-09-005875		Cool General Store	Building, Structure	Historic	1-3 story commerical building
Previously Recorded Sites Within 0.5 Miles of the Study Area					
P-09-000196	CA-ELD-000108		Site	Prehistoric	Lithic scatter; Midden
P-09-000522	CA-ELD-000434		Site	Prehistoric	Lithic scatter; Bedrock milling feature

Table 2.1 Previously Recorded Cultural Resources – Cool

Primary Number	Trinomial	Name	Type	Age	Attributes
P-09-000704	CA-ELD-000616/H		Site	Prehistoric, Historic	Foundations/structure pads; Dumps/trash scatters; Lithic scatter; Bedrock milling feature; Burials; Habitation debris
P-09-001212	CA-ELD-000959H	Georgetown Ditch	Structure, Object, Site, Other	Historic	Water conveyance system; Canal/aqueduct
P-09-003628	CA-ELD-002371H		Building, Structure, Site	Historic	Farm/ranch
P-09-003630	CA-ELD-002373		Site	Prehistoric	Bedrock milling feature

Historic-Period Map Review

Historic aerial photographs of the project area were available for the years 1946, 1952, 1993, 1998, 2005, 2009, 2010, 2012, 2014, 2016, and 2018 (NETR 2021a). Topographic maps including the project area were available for the years 1944, 1948, 1955, 1959, 1961, 1965, 1972, 1977, 1981, 2012, 2015, and 2018 (NETR 2021b). These historic documents indicate that the area was largely undeveloped or being cultivated for agriculture and citrus production into the 1950s, with development occurring alongside Highways 49 and 193. In the late 1970s the development of the northeastern portion of the APE occurred with the construction of the Auburn Lake Trails subdivision of residential homes and associated infrastructure. Suburban residential development continued north of Hwy 193 and east of Hwy 49 throughout the 1980s and 1990s. In the early 2000s a commercial center was developed in the southeast quadrant of the intersection of Hwys 193 and 49. No major changes to the character of the APE have occurred in the intervening years since 2005.

4.1.2 Garden Valley

The records search for Garden Valley identified 19 previous studies performed within the records search area; none of these reports cover the APE (Table 1 and Confidential Appendix A).

Table 1.2 Previous Cultural Resource Studies Within 0.5 Miles of APE

Report ID	Year	Author(s)	Title
Reports Intersecting the APE			
None			
Reports within 0.5 Miles of the APE			
001227	1993	Wheeler, Richard	Archeological and Historical Resources Survey and Impact Assessment Plan for Crane Timber Harvest Plan.
001231	1995	Hubbell, Robert	Archeological and Historical Resources Survey and Impact Assessment Plan for Slepian Timber Harvest Plan.

Table 1.2 Previous Cultural Resource Studies Within 0.5 Miles of APE

Report ID	Year	Author(s)	Title
001232	1997	Allen, Robert	Confidential Archeological Addendum for Timber Operations on Non-Federal Lands in California for Kasner Modified Timber Harvest Plan.
001235	1994	Wheeler, Richard	Archeological and Historical Resources Survey and Impact Assessment for McDonald Timber Harvest Plan.
005145	1995	Hubbell, Robert J.	Archaeological and Historical Survey for Empire V Timber Harvest Plan
005150	1996	Supernowicz, Dana E.	Archaeological Survey Report for Assessor's Parcel Number 060:420:22 Garden Valley, El Dorado County, California
005158	1996	Wadsworth, T. B.	Archaeological and Historical Survey for Wadsworth/Snyder EM Timber Harvest Plan
005164	1995	Calvert, Jeff	Archaeological and Historical Survey for Hackomiller Timber Harvest Plan
005209	1991	Gilbert, Carlys	Rural Forest Improvement, Faia Timber Harvest Plan
005244	1991	Supernowicz, Dana E.	Archaeological Survey Report for Assessor's Parcel Number 60:20:34 Tentative Parcel Map 28-38, Near Garden Valley, El Dorado County, California
005245	1998	Wagener, John C.	Archaeological Addendum for Faia Timber Harvest Plan
007159	1992	Flynn, Clifford	Confidential Archaeological and Historical Resources Survey and Impact Assessment A Supplemental Report for a Timber Harvesting Plan
007161	2005	Supernowicz, Dana	Cultural Resources Study of Assessor's Parcel Number 060:401:26:100 4875 Black Oak Mine Road Garden Valley, El Dorado County, CA 95633
008208	2006	Jean E. Starns	Jollity Farm Annex Cultural Resource Survey and Report on APN: 060-190-32-100
008217	1994	Mark Rhoades	Cultural Resource Inventory of the Prairie-Weaver Timber Sale, Nevada City Ranger District, Tahoe National Forest CRR 05-17-1030
009685	2008	E. A. Greathouse and L. Kyle Napton	Archelogical/Historical Investigation of Cal Fire Garden Valley Forest Fire Station
009854	2008	James Barnes	Manhattan AML Physical Hazard Abatement Project (CA-018-S-PE-08/03)
011799	2013	Tara Cubie and Aniela Travers	Garden Valley/Ensite #14777 (249710)
012736	2018	Jason Coleman	Cultural Resources Records Search and Site Visit for Cal.net Candidate, Harke, 6060 Ambrosia Lane, Garden Valley, El Dorado County, California

The records search identified two cultural resources within the Garden Valley Study Area and an additional 10 cultural resources within 0.5 miles of the Study Area (Table 2.2 and Confidential Appendix B).

Table 2.2 Previously Recorded Cultural Resources – Garden Valley

Primary Number	Trinomial	Name	Type	Age	Attributes
Previously Recorded Sites Intersecting the Study Area and APE					
None					
Previously Recorded Sites Intersecting the Study Area Only					
P-09-002330	CA-ELD-001569	Hanson Site	Site	Prehistoric	Lithic scatter; Bedrock milling feature; Midden
P-09-003488		Garden Valley Forest Fire Station	Building	Historic	Government building
Previously Recorded Sites Within 0.5 Miles of the Study Area					
P-09-002324		Old Abandoned Water Ditch	Site	Historic	Water conveyance system; Canal/aqueduct
P-09-002333		Lilly Mine Cabin	Building	Historic	Standing structures
P-09-002339	CA-ELD-001576H	Oronogo Lode Mine	Site	Historic	Mine
P-09-002345			Site	Historic	Mine
P-09-002351		Abandoned Water Ditch System	Site	Historic	Water conveyance system
P-09-002352		Abandoned shack and garage	Building, Structure	Historic	Standing structures
P-09-002353		Abandoned well	Site	Historic	Well
P-09-002354		Old piece of rusted flue pipe	Object	Historic	Domestic artifact
P-09-004211		Garden Valley Cemetery	Site	Historic	Cemetery
P-09-004940			Site	Historic	Foundations/structure pads; Mine

Historic-Period Map Review

Historic aerial photographs of the project area were available for the years 1946, 1993, 1998, 2005, 2009, 2010, 2012, 2014, 2016, and 2018 (NETR 2021a). Topographic maps including the project area were available for the years 1949, 1950, 1953, 1957, 1959, 1966, 1968, 1975, 1976, 1984, 2012, 2015, and 2018 (NETR 2021b). Topographic maps from 1974 and 1975 show an increase in commercial development along Marshall Rd near the intersection with Black Oak Mine Rd. Between 1993 and 2018, aerial imagery indicates that development in the area was limited, with no substantial alterations to the landscape within the APE.

4.1.3 Georgetown

The records search for Georgetown identified 48 previous studies performed within the records search area; of these, three cover at least a portion of the APE (Table 1.3 and Confidential Appendix A).

Table 1.3 Previous Cultural Resource Studies Within 0.5 Miles of APE

Report ID	Year	Author(s)	Title
Reports Intersecting the APE			
001250	1986	Dietz, Stephen	Letter Report: Archeological Reconnaissance for the Georgetown Main Post Office Project.
001274	1997	Stewart, Mark	Confidential Archaeological Addendum for Timber Operations on Non-Federal Lands in California for Buffalo Hill Emergency Timber Harvest Plan.
008928	2007	Melinda Peak	Cultural Resource Assessment of 6313 Lower Main Street, Georgetown, El Dorado County, California
Reports within 0.5 Miles of the APE			
001240	1991	Supernowicz, Dana	Archeological Survey Report of Tentative Parcel Map 90-158 near Georgetown, El Dorado County, CA.
001241	1991	Supernowicz, Dana	Archeological Survey Report for Assessors Parcel Number 61:081:04 Near Georgetown, El Dorado County, CA.
001242	1991	Supernowicz, Dana	Archeological Survey Report for Assessors Parcel Number 61:571:36 Near Georgetown, El Dorado County, CA.
001246	1985	Decker, Dean	Cultural Resource Inventory Report for the Stiles Water Line R/W.
001247	1983	Yatsko, Andy	Short Form Archaeological Reconnaissance Report for the Leader Public Sale.
001251	1995	Wheeler, Richard	Archeological and Historical Resources Survey and Impact Assessment Plan for McNeil-Rodacker (Amend.) Timber Harvest Plan.
001254	1996	Wheeler, Richard	Archeological and Historical Resources Survey and Impact Assessment for Anastole Timber Harvest Plan-Amendment #2.
001257	1997	Wheeler, Richard	Confidential Archeological Addendum for Timber Operations on Non-Federal Lands in California for Anastole Timber Harvest Plan (Amend. #3).
001258	1996	Wheeler, Richard	Archeological and Historical Resources Survey and Impact Assessment for Anastole Timber Harvest Plan.
001259	1995	Wheeler, Richard	Hubbert Timber Harvest Plan.
001262	1993	Wheeler, Richard	Archeological and Historical Resources Survey and Impact Assessment for Leu Timber Harvest Plan.
001266	1994	Cannon, Steve	Archeological and Historical Resources Survey and Impact Assessment for Dalton Timber Harvest Plan.
001267	1994	Hubbell, Robert	Archeological and Historical Resources Survey and Impact Assessment for Hoover Timber Harvest Plan.
001273	1992	Flynn, Robert	Archeological and Historical Resources Survey and Impact Assessment for Wentz Timber Harvest Plan.
001277	1996	Hubbell, Robert	Archeological and Historical Resources Survey and Impact Assessment for Paley Timber Harvest Plan.
001284	1998	Wagener, John	Confidential Archaeological Addendum for Timber Harvest Operations on Non-Federal Lands in California for Hotchkiss Hill Timber Harvest Plan.
001286	1994	Hubbell, Robert	Archeological and Historical Resources Survey and Impact Assessment for Pedri Timber Harvest Plan.

Table 1.3 Previous Cultural Resource Studies Within 0.5 Miles of APE

Report ID	Year	Author(s)	Title
002419	1998	Peak, Melinda, Neal Neuenschwander, and Robert Gerry	Cultural Resources Assessment of the Fire Station and Cemetery Parcels Proposed for Land Exchange, El Dorado County, California.
002440	1998	Peak, Melinda A. and Robert A. Gerry	Cultural Resources Assessment of the Dark Canyon and Manhattan Creek Parcels Proposed for Land Exchange, El Dorado County, California.
002488	2000	Kral, James J.	Confidential Archaeological Addendum for Timber Operations on Non-Federal Lands in California for Dark Canyon THP.
002820	2001	Kral, James	Confidential Archaeological Addendum for Timber Operations on Non-Federal Lands in California: Dark Canyon THP Amendment
002835	1987	Dietz, Stephen A.	Georgtown, CA MPO Cultural Resources Assessment.
002838	1993	Flynn, Robert E.	Archeological and Historical Resources Survey and Impact Assessment; A Supplemental Report for a Timber Harvesting Plan: Long THP.
004874	1990	Supernowicz, Dana E.	Archaeological Survey Report of Brookhollow Estates Near Georgetown, El Dorado County, California
004875	2002	Peak, Melinda	Cultural Resources Assesment of Georgetown Vicinity
004902	1996	Stewart, Mark	Archaeological and Historical Survey for Foediger Timber Harvest Plan
004903	1998	Historic Resource Associates	Archaeological Survey Report for APN 061:150:22 Near Georgetown, El Dorado County, California
004906	1997	Striplin, Jr., Harvey A.	Archaeological Addendum for Anderson Timber Harvest Plan
004911	2003	Kral, James J.	Archaeological Addendum for Dark Canyon Timber Harvest Plan
004915	1990	Supernowicz, Dana E.	Archaeological Survey Report of Assessor's Parcel No. 61:220:06 Near Georgetown, El Dorado County, California
004917	2001	Stewart, Mark	Archaeological Addendum for Reservoir Timber Harvest Plan and Conversion
004935	1995	Wadsworth, T. B.	Archaeological and Historical Survey for Tiechert Timber Harvest Plan
004945	2001	Allen, Robert W.	Archaeological Addendum for Farthing-West Canyon Timber Harvest Plan
004946	2002	Allen, Robert W.	Archaeological Addendum for Farthing-West Canyon Timber Harvest Plan Amendment
004948	1991	Supernowicz, Dana E., Deitz, Frank, and Bedell, Lisa	Archaeological Investigations at Archaeological Site ELD-Fulling Temporary 1
006883	2005	Kral, James	An Archaelogical Survey Report for the Dark Canyon Two Timber Harvesting Plan El Dorado County, CA
007253	2006	Stewart, Mark	An Archaeological Survey Report for the Taylor THP El Dorado County, Calfornia
009326	2008	Laura Leach-Palm, Bryan Larson, Paul Brandy, Jay King, Lindsay Hartman, and Pat Mikkelsen	Cultural Resources Inventory of Caltrans District 3 Rural Conventional Highways in Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo, and Yuba Counties

Table 1.3 Previous Cultural Resource Studies Within 0.5 Miles of APE

Report ID	Year	Author(s)	Title
010208	2008	Daniel W. Moine	Archaeological Survey Report for Airport THP
011327	2013	M.C. Kile	An Archaeological Survey Report for CVIN Temporary Sump Project 6375 Highway 193, Georgetown El Dorado County, California
012064	2015	Raymond Benson	Archeological Survey Report for the Proposed Georgetown Dollar General Project in Georgetown at Orleans And Harkness Streets, Eldorado County, California

The records search identified one cultural resource within the APE, two within the Study Area, and an additional 20 cultural resources within 0.5 miles of the Study Area (Table 2.3 and Confidential Appendix B).

Table 2.3 Previously Recorded Cultural Resources – Georgetown

Primary Number	Trinomial	Name	Type	Age	Attributes
Previously Recorded Sites Intersecting the Study Area and APE					
P-09-001212	CA-ELD-000959H	Georgetown Ditch	Structure, Object, Site, Other	Historic	Water conveyance system; Canal/aqueduct
Previously Recorded Sites Intersecting the Study Area Only					
P-09-005243		Georgetown	Structure	Historic	Monument
P-09-005799			Site	Historic	Mine
Previously Recorded Sites Within 0.5 Miles of the Study Area					
P-09-001230	CA-ELD-000965H	DC-2	Site	Historic	Mine
P-09-001237		Cark Canyon THP Historic Mining Site	Site	Historic	Water conveyance system; Mine
P-09-001348		Historic Mining Site	Site	Historic	Water conveyance system
P-09-001349			Site	Historic	Mine
P-09-001350			Site	Historic	Walls/fences
P-09-002178		Mine Adit #1	Site	Historic	Mine
P-09-002179		Mine Adit #2	Site	Historic	Mine
P-09-002180	CA-ELD-001502H	Griffiths Mining Site	Site	Historic	Mine
P-09-002208		Roediger mining ditch	Site	Historic	Water conveyance system

Table 2.3 Previously Recorded Cultural Resources – Georgetown

Primary Number	Trinomial	Name	Type	Age	Attributes
P-09-002211			Site	Historic	Trash scatter
P-09-002212		Historic Stage Coach Road	Site	Historic	Road; Trail
P-09-002213		Abandoned Water Ditch	Site	Historic	Water conveyance system; Canal/aqueduct
P-09-002214		Horizontal Mine Tunnel	Site	Historic	Mine
P-09-002215		Abandon Water Well	Site	Historic	Well
P-09-002219		Historic mining site - update	Structure, Site	Historic	Water conveyance system; Mine
P-09-002226	CA-ELD-001508		Site	Prehistoric	Lithic scatter; Bedrock milling feature
P-09-002283		West Canyon Ditch	Site	Historic	Canal/aqueduct
P-09-003536			Site	Historic	Water conveyance system
P-09-004484			Structure	Historic	Canal/aqueduct

Historic-Period Map Review

Historic aerial photographs of the project area were available for the years 1946, 1993, 1998, 2005, 2009, 2010, 2012, 2014, 2016, and 2018 (NETR 2021a). Topographic maps including the project area were available for the years 1949, 1950, 1953, 1954, 1957, 1966, 1969, 1975, 2012, 2015, and 2018 (NETR 2020b). These historic documents indicate that very little apparent change has occurred within the APE in the past 60 years. In 1946 the downtown area of Georgetown was well-developed. Ongoing maintenance of existing infrastructure has been the primary development visible in the aerials, with no major changes occurring in the orientation of the roads within Georgetown. Suburban areas consist of private residences and forests.

4.2 Review of Geomorphological Context

In general, the soils present in the APE are consistent with alluvial lands derived from an assortment of parent materials. Sediment formation in this location would likely have occurred primarily during the Holocene, generally relating to increased water flows following Pleistocene glaciation (possibly 5,000–7,000 BP) (Ritter 1972). Although such low-slope locations are characteristically Late Holocene or younger, the distinction between depositional and non-depositional formations are more difficult to discern in the foothills and transitional environment into the valley area. Regardless of the age of sediments in this area, reoccurring alluvial action and flooding would serve to support the development and presence of cultural deposits in the area. The river areas would have been an attractive

resource for prehistoric people, and any natural levees along the riverbank and higher-elevation areas within the floodplain would have higher potential for buried deposits.

Cool

According to the U.S. Department of Agriculture Natural Resources Conservation Services (USDA 2020), 11 soil types are mapped in the study area, including three soils that are primarily Auburn series, two Boomer series, two Sobrante series, a Delpiedra series, and others (Figure 3A). Soils within the APE consist primarily of Delpiedra very rocky loam, Auburn silt loam and Auburn very rocky silt loam, with smaller amounts of Sobrante silt loam, mixed alluvial land, and serpentine rock land. The underlying geological formation for nearly the entire study area is Miocene marine, with a small southwestern portion of the study area underlain by Franciscan volcanic rocks (USGS 2000).

In general, the soils present in the APE are consistent with soils formed from weathered parent material on slopes and ridges, with low potential for buried deposits. There is some potential for buried deposits in the mixed alluvial soils around Knockerbocker Creek in the southern portions of the study area, however that portion of the APE has previously been disturded by construction of Georgeotown Road and given that project components are proposed to occur within existing public right of way there is little potential for discovery of intact buried deposits in that area.

Garden Valley

According to the U.S. Department of Agriculture Natural Resources Conservation Services (USDA 2020), 9 soil types are mapped in the study area, including two soils that are primarily Mariposa series, two Boomer series, Two Sites series, and a Josephine series (Figure 3B). Soils within the APE consist of Boomer-Sites loams, Josephine silt loam, Mariposa gravelly silt loam and very rocky silt loam, Placer diggings, and Mixed alluvial soils. The geological formation underlying the entire study area is Jurassic marine (USGS 2000).

In general, the soils present in the APE are consistent with soils formed from weathered parent material on slopes and ridges, with low potential for buried deposits. There is some potential for buried deposits in the portion of the APE that parallels Johntown Creek, however most of the APE in this area is within soils that are previously disturbed by placer mining and the portion within mixed alluvial soils is proposed to occur within existing public right of way that has previously been disturbed by road grading, such that there is little potential for discovery of intact buried deposits.

Georgetown

According to the U.S. Department of Agriculture Natural Resources Conservation Services (USDA 2020), 9 soil types are mapped in the study area, including two soils that are primarily Mariposa series, two Boomer-Sites series, two Josephine series, and a Crozier series (Figure 3C). The APE intersects all of these soils, with the largest portion of the APE within Boomer-Sites loams. The geological formation underlying the entire study area is Jurassic marine (USGS 2000).

In general, the soils present in the APE are consistent with soils formed from weathered parent material on slopes and ridges, with low potential for buried deposits. In addition, all proposed project components are to occur within existing public right of way that has previously been disturbed, such that there is little potential for discovery of intact buried deposits.

4.3 Survey Results

Dudek archaeologist Ross Owen conducted an intensive-level pedestrian survey of the entire project APE June 2-3, 2020, using standard archaeological procedures and techniques, as outlined in Chapter 3, Research Methods. One previously recorded resource (P-09-001212), the Georgetown Divide Ditch, was also recorded as intersecting the APE.

Ground surface visibility was low (approximately 5%–10%) over much of the APE due to vegetation, however cut banks on the side of the road with exposed soil and active erosion allowed for periodic views of soils and stratigraphy within each of the three study areas. Photos 1, 2 and 3 show representative conditions within each APE at the time of survey. Soils within all three cities exhibit moderate disturbance due to the development and maintenance of the adjacent roads and roadside ditches.

Photo 1. Survey Conditions within Cool Study Area

Photo 2. Survey Conditions within the Garden Valley Study Area

Photo 3. Survey Conditions within the Georgetown Study Area

Figure 3a Map of Soils: Cool

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Figure 3b Map of Soils: Garden Valley

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Figure 3c Map of Soils: Georgetown

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4.5 Tribal Coordination

The NAHC was contacted by Dudek staff on July 2, 2021, to request a search of its Sacred Lands File. The NAHC responded on July 24, 2021, indicating that no Native American resources on file with the NAHC fall within the project APE (Confidential Appendix B). The NAHC provided a list of Native American tribal contacts who may have additional knowledge relating to cultural resources in the area. Because this project will be subject to Section 106 of the NHPA, the U.S. Department of Commerce will be contacting NAHC-listed tribal representatives. Similarly, coordination and consultation with the State Historic Preservation Officer will be required to comply with Section 106, it is anticipated that this coordination and consultation will occur at a future date and will be documented within the final version of, or an addendum to, the present report.

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5 Review of Effects

According to CEQA and the National Environmental Policy Act, a project with an effect that may cause a substantial adverse change in the significance of a historical resource (historic property) is a project that may have a significant effect (adverse effect) on the environment and the cultural resource itself. A substantial adverse change in the significance of a historical resource/historic property would be constituted by physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. Significance, under these conditions, is to be interpreted in terms of the resource's eligibility for listing in the CRHR and/or NRHP. To best mitigate the effects of a project on cultural resources, a reasonable, good faith effort must be applied to determining those resources' archaeological character and eligibility for CRHR/NRHP listing.

5.1 Thresholds of Significance

The significance criteria used to evaluate a project's impacts to cultural resources under CEQA are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to cultural resources would occur if the project would:

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 dedicated cemeteries.

5.2 Effects/Impacts Analysis

Threshold a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Impacts to historic built-environment resources are addressed in a separate technical study.

Threshold b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

A records search was completed for the current APE and a 0.5-mile buffer by staff at the NCIC at California State University Sacramento on May 17, 2021. The NCIC records search identified a number of historic-era and prehistoric archaeological reousreces within the 0.5-mile search area, however, none of these intersect the APE or would otherwise be potentially affecte by the project as presently designed.

The NAHC was contacted by Dudek staff on July 2, 2021, to request a search of its Sacred Lands File. The NAHC responded on July 24, 2021, indicating that no Native American resources on file with the NAHC fall within the project APE (Confidential Appendix B). The NAHC provided a list of Native American tribal contacts who may have additional knowledge relating to cultural resources in the area. Because this project will be subject to Section 106 of the NHPA, the U.S. Department of Commerce will be contacting NAHC-listed tribal representatives. Similarly,

coordination and consultation with the State Historic Preservation Officer will be required to comply with Section 106, it is anticipated that this coordination and consultation will occur at a future date and will be documented within the final version of, or an addendum to, the present report.

Dudek archaeologists completed survey of the APE road shoulders. No archaeological resources were identified, and all areas appeared to have been substantially disturbed. Given the present conditions, and the finding s of the NCIC search and survey, the potential of encountering and impacting unknown archaeological resources during project implementation is considered low.

If unanticipated archaeological discoveries were encountered, impacts to encountered resources could be potentially significant. However, recommended management strategies intended to address potential impacts to unanticipated cultural resources are provided inl below, and should be added as mitigation measures for the Project. All construction personnel should be appropriately informed of required responses to unanticipated cultural resources, should these be encountered. Recommended mitigation requires that all construction work occurring within 100 feet of an unanticipated cultural resource would immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology, can evaluate the significance of the find.

Through implementation of recommended management strategies, potentially significant impacts to archaeological resources would be reduced to a less than significant level. Therefore, impacts would be less than significant with the management strategies recommended below incorporated.

Threshold c. Disturb any human remains, including those interred outside of dedicated cemeteries?

No prehistoric or historic-era burials were identified within the APE as a result of the records search. The project is not part of a dedicated cemetery. The NCIC records search indicated that burials of prehistoric Native American origin have been identified within 0.5 miles of the APE. The recommended management strategies outlined in detail below pertaining to preparing and implementing an archaeological monitoring and discovery plan and Worker Environmental Awareness Program would help ensure that unanticipated human remains would be appropriately respected and treated in compliance with regulatory requirements. Recommended management strategies below also include appropriate implementation of California Health and Safety Code Section 7050.5, PRC Section 5097.98, and other pertinent regulatory requirements. Compliance with applicable state regulations related to the potential disturbance of human remains and remains of potential Native American origin would be adequate to address any potential impacts.

No known human remains have been documented within the APE. The incorporation of the recommended management strategies will ensure that any impacts of the project remain less than significant even if unanticipated human remains are discovered.

6 Summary and Management Considerations

The current archaeological resources inventory was completed to satisfy the requirements of CEQA and Section 106 of the NHPA. Dudek's Phase I cultural resources inventory of the APE suggests that there is low potential for the inadvertent impact to unanticipated cultural resources located on the surface and/or related subsurface deposits. The NAHC Sacred Lands Files search did not identify Native American resources in the APE or surrounding search area. The NCIC records search did not identify any archaeological resources within or near the APE. The present report should be updated once the Project design has been finalized to confirm no additional areas have been added with potential to affect archaeological resources. Based on these considerations, the following management recommendations have been provided to ensure that the project will not impact unanticipated significant cultural resources.

6.1 Recommendations

Prior to the initiation of ground-disturbing work, construction crews shall be made aware of the potential to encounter cultural resources and the action to be taken if an unanticipated archaeological discovery is made. In the event that unanticipated potential archaeological deposits or features are exposed during construction activities, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting Secretary of the Intrior Standards in archaeology, has been retained and is provided an opportunity to evaluate the significance of the find and determine whether or not additional study is warranted. The work exclusion buffer may be adjusted as appropriate to allow work to feasibly continue at the recommendation of the archaeologist. Should it be required, temporary flagging shall be installed around this resource in order to avoid any disturbances from construction equipment. The potential for avoidance should be the primary consideration of this initial process. Significance of the find shall be assessed as outlined by CEQA (14 CCR 15064.5[f]; PRC Section 21082). If the archaeologist observes the discovery to be potentially significant under CEQA or Section 106 of the NHPA, additional efforts, such as preparation of an archaeological treatment plan, testing, and/or data recovery, may be warranted prior to allowing construction to proceed in this area.

In accordance with Section 7050.5 of the California Health and Safety Code, if potential human remains are found, the county coroner shall be immediately notified of the discovery. The coroner shall provide a determination within 48 hours of notification. No further excavation or disturbance of the identified material, or any area reasonably suspected to overlie additional remains, shall occur until the coroner has reviewed next steps based on regulatory conditions and a determination has been made regarding if the find is human in origin. If the county coroner determines that the remains are, or are believed to be, Native American, the coroner shall notify the NAHC within 24 hours. In accordance with PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendent from the deceased Native American. Within 48 hours of the notification, the most likely descendent shall recommend to the lead agency their preferred treatment of the remains and associated grave goods.

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Appendix A (Confidential)

Records Search Maps and Information

Appendix B

NAHC Sacred Lands File Search

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: El Dorado County Fiber Optic Project (12450.05)

County: El Dorado

USGS Quadrangle Name: Auburn, Greenwood, Georgetown, Garden Valley

Township: 12 North **Range:** 8 East **Section(s):** 13

Township: 12 North **Range:** 9 East **Section(s):** 5-9, 16-20

Township: 12 North **Range:** 10 East **Section(s):** 1- 4, 9-12, 14, 15, 22, 26-28, 33, 34

Company/Firm/Agency: Dudek

Contact Person: Ross Owen, M.A., RPA

Street Address: 853 Lincoln Way, Suite 208

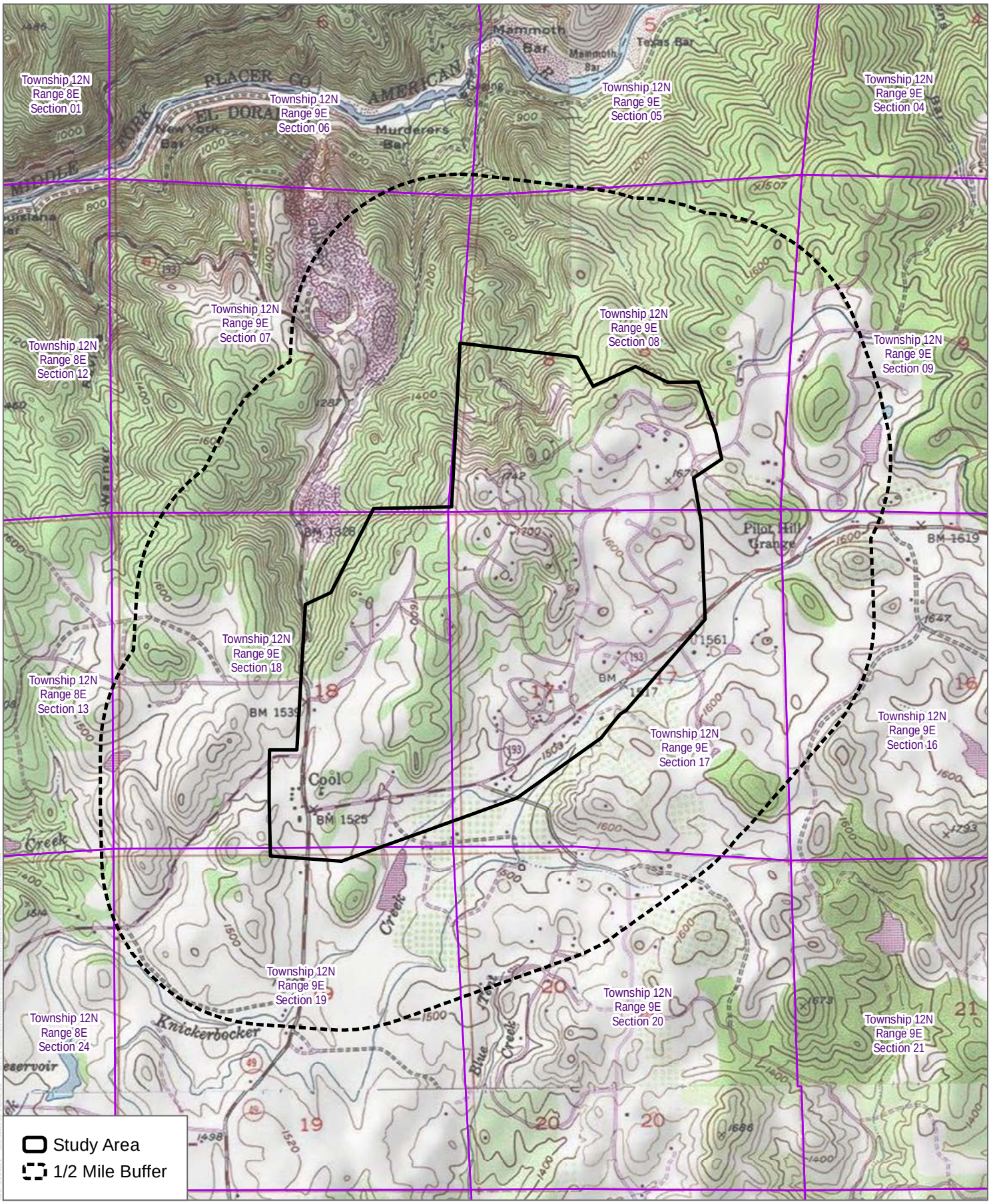
City: Auburn **Zip:** 95603

Phone: 916.531.8654 **Fax:** 530.887.1250

Email: rowen@dudek.com

Project Description: In preparation of a cultural resources assessment for the El Dorado County Fiber Optic Project in El Dorado County, CA, Dudek is requesting a Sacred Lands File search as part of the cultural resources inventory process. Please provide contacts for appropriate traditionally geographically affiliated Native American representatives and/or organizations from whom this information may be also requested.

(See attached Project Location Maps)



SOURCE: USGS 7.5-Minute Series Auburn, Greenwood, Georgetown, Garden Valley Quadrangles
Township 12N; Range 10E, 9E, 8E; Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 24, 26, 27, 28, 33, 34

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0 285 570 Meters
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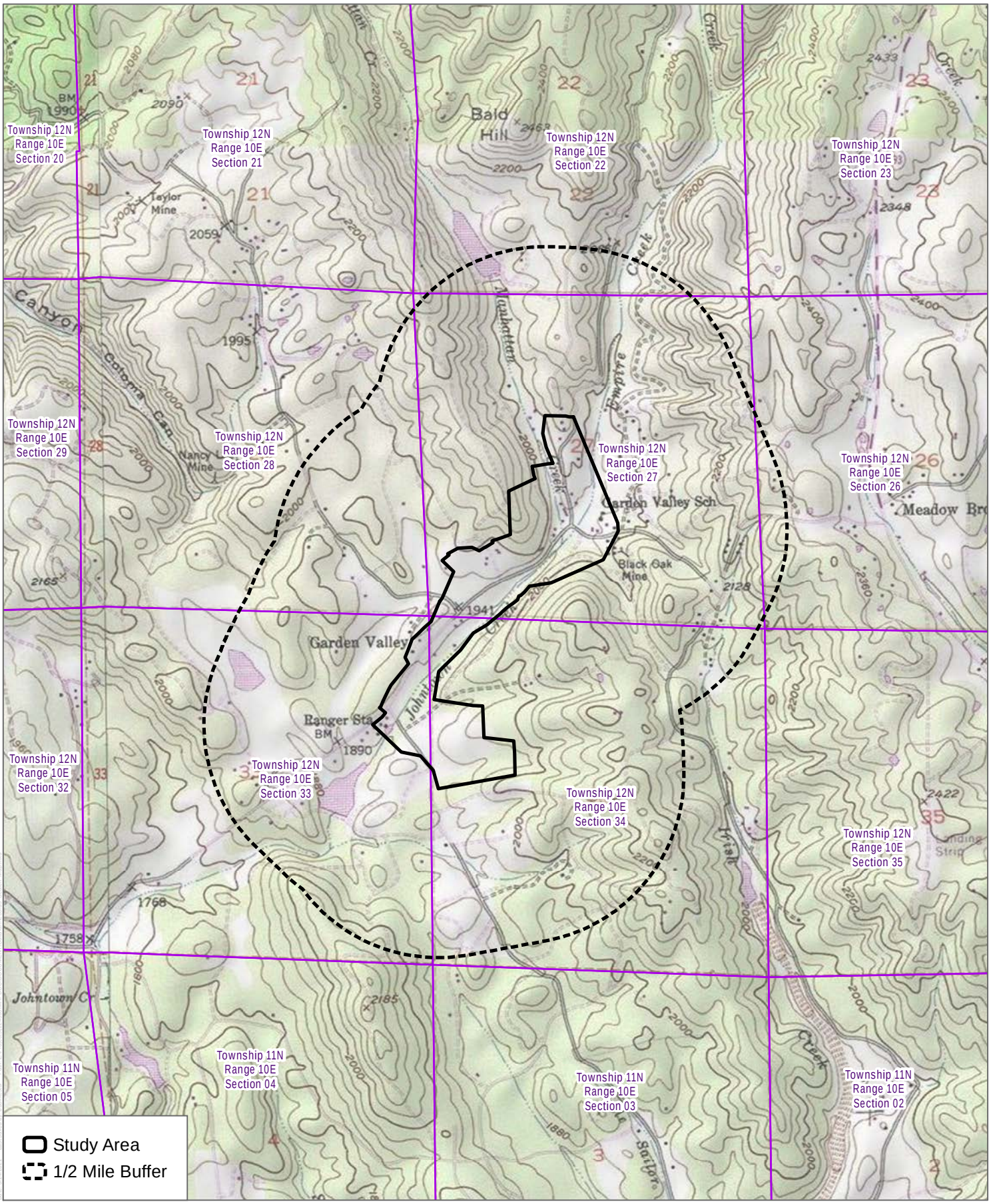
COOL

Records Search

Fiber Optic Alignments



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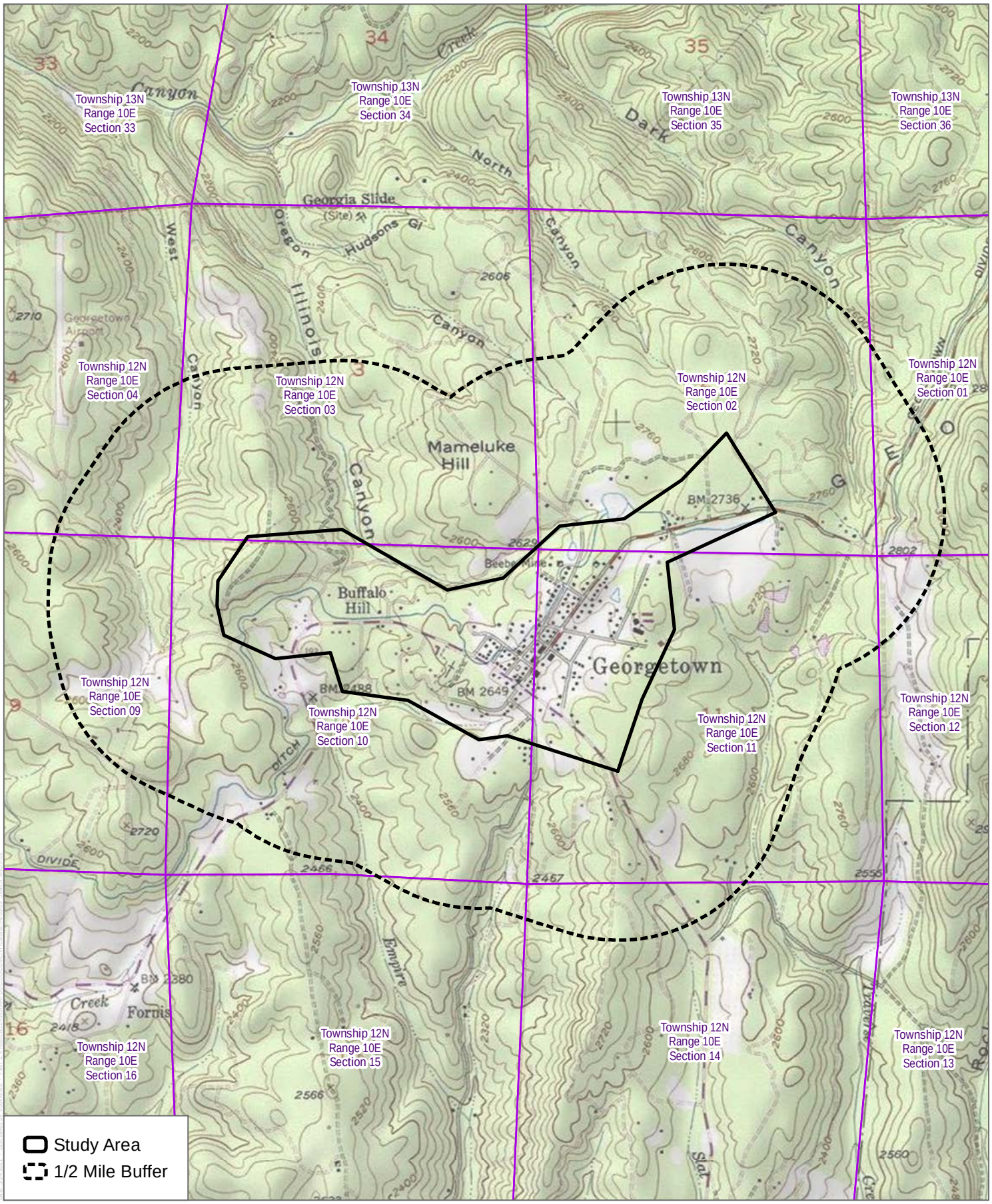
GARDEN VALLEY
Records Search
Fiber Optic Alignments



SOURCE: USGS 7.5-Minute Series Auburn, Greenwood, Georgetown, Garden Valley Quadrangles
Township 12N; Range 10E, 9E, 8E; Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 24, 26, 27, 28, 33, 34

DUDEK

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GEORGETOWN
Records Search
Fiber Optic Alignments

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

July 24, 2021

Ross Owen, MA, RPA, Archaeologist
Dudek

Via Email to: rowen@dudek.com

Re: El Dorado County Fiber Optic (12450.05) Project, El Dorado County

Dear Mr. Owen:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Sarah.Fonseca@nahc.ca.gov.

Sincerely,

Sarah Fonseca
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
El Dorado County
7/24/2021

Ione Band of Miwok Indians
Sara Dutschke, Chairperson
9252 Bush Street — Miwok
Plymouth, CA, 95669
Phone: (209) 245 - 5800
consultation@ionemiwok.net

Shingle Springs Band of Miwok Indians
Regina Cuellar, Chairperson
P.O. Box 1340 — Maidu
Shingle Springs, CA, 95682 — Miwok
Phone: (530) 387 - 4970
Fax: (530) 387-8067
rcuellar@ssband.org

Tsi Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 510 — Maidu
Browns Valley, CA, 95918
Phone: (530) 383 - 7234
tsi-akim-maidu@att.net

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road — Maidu
Auburn, CA, 95603 — Miwok
Phone: (530) 883 - 2390
Fax: (530) 883-2380
bguth@auburnrancheria.com

Washoe Tribe of Nevada and California
Darrel Cruz, Cultural Resources Department
919 Highway 395 North — Washoe
Gardnerville, NV, 89410
Phone: (775) 265 - 8600
darrel.cruz@washoetribe.us

Wilton Rancheria
Dahlton Brown, Director of Administration
9728 Kent Street — Miwok
Elk Grove, CA, 95624
Phone: (916) 683 - 6000
dbrown@wiltonrancheria-nsn.gov

Wilton Rancheria
Steven Hutchason, THPO
9728 Kent Street — Miwok
Elk Grove, CA, 95624
Phone: (916) 683 - 6000
Fax: (916) 863-6015
shutchason@wiltonrancheria-nsn.gov

Wilton Rancheria
Jesus Tarango, Chairperson
9728 Kent Street — Miwok
Elk Grove, CA, 95624
Phone: (916) 683 - 6000
Fax: (916) 683-6015
jtarango@wiltonrancheria-nsn.gov

Colfax-Todds Valley Consolidated Tribe
Clyde Prout, Chairperson
P.O. Box 4884 none — Maidu
Auburn, CA, 95604 — Miwok
Phone: (530) 577 - 3558
miwokmaidu@yahoo.com

Colfax-Todds Valley Consolidated Tribe
Pamela Cubbler, Treasurer
P.O. Box 4884 — Maidu
Auburn, CA, 95604 — Miwok
Phone: (530) 320 - 3943
pcubbler@colfaxrancheria.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed El Dorado County Fiber Optic (12450.05) Project, El Dorado County.

Appendix C

Resumes for Key Cultural Personnel

Adam Giacinto, MA, RPA

Archaeologist

Adam Giacinto is an archaeologist and ethnographic specialist with 15 years' experience preparing cultural resource reports, site records, and managing archaeological survey, evaluation, and data recovery-level investigations. His research interests include prehistoric hunter-gatherer cultures and contemporary conceptions of heritage. His current research focuses on the social, historical, archaeological, and political mechanisms surrounding heritage values. He has gained practical experience in archaeological and ethnographic field methods throughout the southwestern US.

Adam Giacinto

Selected Project Experience

California High Speed Rail, Fresno-Bakersfield, California. As principal investigator, oversees, implements, and reports upon cultural inventory, evaluation, data recovery and compliance efforts under Section 106 of the NHPA, Federal Rail Authority, CEQA, and local Guidelines for Fresno to Bakersfield section. Oversight of Native American monitors, built environment specialists and archaeologists, management of cultural monitoring implementation and site treatment, client reporting, meetings and report preparation. Implementation of mitigation included exploratory archaeological investigations at multiple NAHC-eligible resources.

El Dorado Irrigation District Pacific Tunnel Replacement Project, Riverton, El Dorado County, California. Oversaw background research,survey, resource documentation, tribal consultation, and preparation of a technical report under CEQA and Section 106 regulatory context. An appropriate mitigation strategy was developed for this cultural inventory, including management of historical EID components and segments of the Mormon-Carson Emigrant Trail.

Sacramento International North 16th Street Improvement Project, Sacramento, California. Oversaw ASR preparation, inventory efforts, and other archaeological and tribal resources efforts

SMF Master Plan Support, Sacramento, California. Oversaw background research, survey, effects analysis and preparation of a technical report under CEQA and Section 106 regulatory context.

Glenn County Boat Ramps Project, California. As principal archaeological investigator coordinated records searches, tribal coordination, APE map preparation, fieldwork, resource review, report preparation. Work was performed to meet USACE review for Section 106 compliance.

Eaton Road Overpass Project, Sacramento, California. As principal archaeological investigator coordinated records searches, APE map preparation, fieldwork, resource review, ASR preparation, and management recommendations for this City of Sacramento and Caltrans compliance project.

Chico State University, Butte County, California. As principal investigator, as overseen archaeological research, fieldwork, and reporting on three projects on the university campus.

Vacaville Center Campus Project, Solano Community College District, City of Vacaville, California. As principal archaeological investigator, coordinated a NWIC records search, NAHC and Native American communication,

archaeological survey, and preparation of a technical report. Recommendations were framed in compliance with California Environmental Quality Act (CEQA) regulations and submitted to the lead agency.

Lassen Substation Project EIR, Siskiyou County, California. As cultural resources specialist, integrated results of technical studies into cultural resources section. Facilitated consultation with tribes on behalf of the CPUC.

Auburn Recycled Wastewater Treatment Plant Secondary Process Upgrade Improvement Project, City of Auburn, California. As principal investigator, Mr. Giacinto managed the survey, archival searches, tribal correspondence, and reported mangement recommendations for a cultural resources inventory. Considerations included compliance under CEQA and Section 106 of the NHPA.

Donner Trail Elementary School Project, Truckee, Placer and Nevada County, California. As archaeologist, Mr. Giacinto coordinated a North Central Information Center (NCIC) records search, Native American Heritage Commission (NAHC) and Native American correspondence, archaeological survey, and preparation of a technical report. An appropriate mitigation strategy meeting state and local standards was developed and provided to the client for this negative cultural inventory.

Placer County Government Center Master Plan Update, North Auburn, California. As principal archaeological investigator, Mr. Giacinto coordinated NCIC records search, NAHC and Native American information outreach, archaeological survey, and preparation of a technical report. Coordinated UAIC consultation and site visit. Documented and evaluated NID ditch segment. An appropriate mitigation strategy was developed meeting CEQA, County, and local requirements for this cultural inventory.

Spectrum Alturas, Modoc County, California. As Principal archaeological investigator, Mr. Giacinto coordinated and completed a Northeastern Information Center (NEIC) records search, Native American Outreach, coordinated archaeological survey, archaeological report preperation. Recorded and updated more than 50 archaeological resources. Drafted PAL Map and report for CEQA and Section 106 compliance.

Dorsey Marketplace Project, City of Grass Valley, California. As Principal archaeological investigator, Mr. Giacinto coordinated a North Central Information Center (NCIC) records search, Native American Heritage Commission (NAHC) and Native American information outreach, archaeological survey, and preparation of a technical report. An appropriate mitigation strategy was developed meeting CEQA and local requirements for this cultural inventory, including recommendations relating to historical mining features.

Martis Creek Restoration Project, Truckee River Watershed Council, Truckee, California. As ethnographic researcher and principal archaeological investigator, managed archaeological monitoring and investigations at Martis Type Site CA-PLA-5, conducted verbal, semi-structured interviews with four elders from the Washoe Tribe of California and Nevada, synthesized transcriptions of themes expressed concerning tribal histories and values within larger investigation

Operations and Maintenance On-Call, Department of Water Resources. As primary Dudek archaeological and tribal resources consultatant, Mr Giacinto manages cultural resources projects for DWR. These inlude the Cultural Resources Inventory for the B.F. Sisk Dam Safety of Dams Modification Project, Delta Dams Raise Project (three reservoirs), MP 230 Project, and Upper Feather River Projects (three dam locations) and preperation of a Programattic Agreement for Cultural resources for DWR. Mr Giacinto is familiar with the DWR Tribal Engagement and AB 52 processes.

Alameda County Water District Project, California 2019-present. As principal cultural investigator, coordinated a records search, NAHC sacred lands file search, tribal outreach, and preparation of a constraints study, report and monitoring plan, and IS/MND under CEQA and Section 106. Included 100 square mile sensitivity model of known and buried cultural resources by applying a weighted geologic, soils, geotechnical, slope, landscape, and previous technical study information.

Pure Water Plan Constraints Study and PEIR, City of San Diego, California. As Principal investigator and field director, Mr. Giacinto managed preperation of a constraints study for the Pure Water Project. Work involved a records search of over 100 mile linear miles of San Diego. Site record information from more than 1,236 cultural resources was processed, coded, and integrated within a geospatial sensitivity model to identy archaeological and built environment constraints throughout the proposed alignment.

Cloverdale Unified School District On-Call Projects, Sonoma County, California. As Principal archaeological investigator, Mr. Giacinto coordinated NWIC, NAHC, and Native American correspondence, archaeological survey, and preparation of a technical report for 5 Cloverdale unified school district projects. Projects involved CEQA considerations and Section 106 compliance for USACE review.

Yokohl Ranch Development Project, The Yokohl Ranch Company, LLC, Tulare County, California. As co-principal investigator and field director, managed 15 archaeologists in conducting significance evaluation of 118 historical and prehistoric cultural resources throughout the 12,000 acre Yokohl Valley area. Operated as tribal interface, and facilitated the respectul handling and reburial of sensitive cultural material with the tribes, applicant, and NAHC.

City of Rohnert Park On-Call Cultural Resources Services, Sonoma County, California. As Principal archaeological investigator, Mr. Giacinto has provided recommendations, attended AB 52 consultation meetings, and overseen work for more than a half-dozen projects throughout the City of Rohnert Park. Has strong working relationships with the Graton Rancheria Federated Indian Tribe and other tribes in the surrounding region.

City of Saint Helena On-Call, Napa County, CA. On contract to provide cultural support. One project of note, the Hunter Subdivision, included Dudek records search, pedestrian survey, extended Phase I testing, ground penetrating radar, and prepared cultural resources report for residential subdivision project proposed within NRHP eligible archaeological district.

SFO Rental Car Center/Air Train Project/Runway Improvements/Habitat Restoration Projects, San Francisco, California. As Principal archaeological investigator, Mr. Giacinto managed and completed archaeological work for the SFO Rental Car Center/Air Train and Runway Improvements Projects included a NWIC records search, NAHC sacred lands file search, tribal outreach, and preparation of a constraints study, ARMR-style technical report for compliance with CEQA and Section 106. Work included an assessment of known resources and potential for unanticipated buried cultural resources by consulting geologic, soils (including marine resources), historical map, geotechnical, slope, landscape, and previous technical study information. Preparation of a report and maps that met State Historic Preservation Office, FAA and Airport staff needs was completed.

Wildlife Services Program EIR-EIS, CDFA/USDA. Dudek has developed template letters to be used for tribal notification, follow up, and consultation for this project. Dudek drafted, and mailed letters on behalf of CDFA, letters to all 216 NAHC-listed contacts in the state of California. Responses received are tracked, reviewed with the agency, and responded to. In addition, outreach letters prepared by the USDA were reviewed and modified for the purposes of Section 106 consultation.

AB 52 Support. Mr Giacinto has been contracted to prepare dozens of TCR reports. The goal of these investigations is to review the archaeological, historical, academic, and ethnographic record for potential TCR information, then gound contemporary AB 52 consultation information in this context while providing recommendations related to reasonable approaches for Management. In addition, Mr. Giacinto provides on-call suppport for helping a number of agencies work through challenginf AB 52 issues.

Nicholas Hanten

Archaeologist

Nicholas Hanten is an archaeologist with 12 years' experience conducting and leading archaeological projects throughout California. including archaeological survey, evaluation, and data recovery investigations, construction monitoring, and laboratory procedures including artifact cataloging, analysis, and curation preparation. He also has experience with technical report writing for compliance with local, state, and federal regulations.

Education

University of California, Davis
BS, Anthropology, 2011
MA, Anthropology, 2016
PhD, Anthropology, in progress

Professional Affiliations

Society for California Archaeology
Society for American Archaeology

Mr. Hanten's research interests include prehistoric hunter-gatherer subsistence and settlement systems, prehistoric land use, and human behavioral ecology. His PhD dissertation research focuses on modeling changing subsistence and settlement patterns in the Central Sierra Nevada combining ecological models.with spatial data analysis of resource availability and other factors.

Selected Project Experience

Wind Energy Project, Santa Barbara County, California. Assisted with testing and data recovery excavations, served as lab director and primary lithic analyst for testing phase. Co-author of technical report..

Sacramento International Airport Cargo Facility Project, Sacramento County, California. As field lead, coordinated and performed archaeological survey; co-author of technical report

Carson Creek Environmental Impact Report. El Dorado County, CA As archaeologist conducted pedestrian survey.

Cultural Resources Inventory, Extended Phase I and Phase II for the Hunter Subdivision Project. As archaeologist, assisted with field excavations; coauthor of technical report

Rancho Seco Solar II Project, Herald CA, As archaeological monitor, monitored the installation of solar energy facility in collaboration with Native American monitors

Martis Wildlife Area Resoration Project, Truckee, CA. As archaeologist, duties included construction monitoring, assisting with field excavations, laboratory analysis. Co-author of technical report/site impacts assessment

El Dorado Hills Wastewater Collection Facility Relocation Project, El Dorado County, California As archaeologist, conducted pedestrian survey and resource documentation for the project

Cultural Resources Study for Kings Beach Elementary School Modernization, Kings Beach, Placer County, California As field archaeologist, conducted pedestrian survey and resource documentation for archaeological and built environment studies for the project

Cultural Resources Inventory for the City of Woodland Recycled Water Project, Yolo County, California As archaeologist, conducted pedestrian survey and resource documentation for project. Co-author of technical letter report

Truckee High School Track and Field Improvements Project, Truckee, Placer County, CA As archaeologist, conducted pedestrian survey and resource documentation for project. Co-author of technical report

Camp 5 Notice of Emergency Timber Operations Project, El Dorado County, CA As archaeologist, conducted pedestrian survey of the project area. Co-author of technical report

Yokohl Ranch Cultural Resources, The Yokohl Ranch Company, LLC, Tulare County, California. As field director, managed and conducted surface mapping, surface collection, and excavation of 95 prehistoric and historical period sites throughout the Yokohl Valley. As lab director, managed and conducted the cataloging and analysis of all material recovered during excavation and authored laboratory portions of the technical report.

Phase II Evaluation of 85 Archaeological Sites on Edwards Air Force Base, CH2M HILL/JT3, Kern and Los Angeles Counties, California. As crew chief, assisted in test excavations, pedestrian survey, and GPS data collection with a Trimble GPS unit. Also assisted with laboratory analysis and curation preparation.

Phase I Cultural Resources Inventory of 7650 acres on Edwards Air Force Base, CH2M HILL/JT3, Kern County, California. As crew chief, assisted in pedestrian survey and GPS data collection with a Trimble GPS unit, and wrote portions of report.

Winchester 1800 – Saba Property, French Valley Acres LLC, Riverside, California. As field director, conducted pedestrian survey of 40 acres for a proposed housing development; prepared a letter report of findings.

Poseidon Wetland Mitigation Area, Poseidon Water LLC, San Diego, California. As lab director, managed the cataloging and analysis of artifacts recovered from excavations; assisted in authoring final report of findings.

Alessandro Business Park, Western Realco, Riverside, California. As archaeological monitor and crew chief, monitored the excavation of potholes and trenches in collaboration with Native American monitors; recorded and excavated five prehistoric archaeological sites

Evaluation of SDI-13,077H and Data Recovery at SDI-13,078 for the Rhodes Crossing Project, San Diego County, California. As part of crew, assisted in test excavation and pedestrian survey.

St. John Garabed Church Environmental Services, St. John Garabed Apostolic Church Trust, San Diego, California. As crew chief and lab director, assisted in conducting test excavations for one prehistoric site; managed the cataloging and analysis of recovered artifacts; assisted in preparing a report of findings.

Lady of Peace Academy Parking Structure Cultural Monitoring, T.B. Penick & Sons Inc., San Diego, California. As crew chief and lab director, assisted in conducting test excavations for one historic site for during project monitoring. Managed the cataloging and analysis of recovered artifacts.

Cultural Resource Study for the Kearny High School Athletic Field Redevelopment, BRG Consulting, San Diego, California. As crew chief, conducted pedestrian survey and wrote report.

Significance Evaluation of SDI-20363 for the San Marcos High School Expansion Project, San Marcos Unified School District, San Diego County, California. As crew chief, assisted in test excavations and GPS data collection for a buried prehistoric site.

Ocotillo Wind Energy Project, Bureau of Land Management (BLM), Imperial County, California. As third-party monitor, monitored construction activities and archaeological monitors to ensure that all activities were in compliance with BLM regulations.

Block 12 Development, Aera Energy, LLC., Bakersfield, California. As field director, conducted a pedestrian survey of 32 acres for a proposed oil field expansion; prepared a letter report of findings

Solar Site Development Environmental Services, Soitec Solar, San Diego, California. As field director, conducted pedestrian survey of 12 acres for a proposed solar generation facility.

Archaeological Evaluation for the Rugged Solar Project, County of San Diego, California. As crew member, assisted in test excavation, pedestrian survey, and GPS data collection with Trimble GPS unit.

Silurian Valley Wind Project, Iberdrola Renewables, San Bernardino County, California. As monitor, conducted pedestrian survey of access routes and monitored construction activities.

Gold Basin Project Meteorological Mast Construction, LH Renewables, San Diego County, California. As monitor, conducted pedestrian survey of the project area and monitored construction activities.

Significance Evaluation of Four Prehistoric Archaeological Sites for the GCL/Rosendin Sol Focus Project, RBF Consulting, Borrego Springs, California. As crew chief, assisted in test excavations at prehistoric temporary camps.

Phase I Cultural Resources Pedestrian Survey of Various Parcels for the Sol Orchard Solar Project, RBF Consulting, San Diego County, California. Serving as crew chief, conducted intensive pedestrian survey of multiple parcels for solar development.

Class II and Class III Cultural Resources Inventory for the Tule Wind Alternative Energy Project, HDR Engineering for Iberdrola Renewables, San Diego County, California. Serving as field technician, assisted in pedestrian survey and site recordation.

Sunrise-Powerlink Project, San Diego Gas and Electric, San Diego County, California. As crew chief, conducted small pedestrian surveys and monitoring for utility pole replacement.

Cultural Resource Monitoring for the Red Beach Mobile Mount Project, Marine Corps Base (MCB) Camp Pendleton, San Diego County, California. Serving as monitor, conducted small pedestrian survey and monitored construction activities.

Archaeological Investigations at SDI-9824, MCB Camp Pendleton, San Diego County, California. Serving as crew chief, assisted in archaeological excavation, ground-penetrating radar, and X-ray fluorescence study of a late prehistoric archaeological site.

Section 106 Evaluations of Two Prehistoric Sites for Firebreak Maintenance, Vandenberg Air Force Base, Santa Barbara County, California. As student assistant, assisted in test excavations at complex prehistoric habitation sites for the University of California, Davis, Field School.

Carlsbad Desalination Plant Cultural and Biological Monitoring, Poseidon Resources, Carlsbad, California. As archaeological monitor, monitored trenching, grading, and the installation of water lines.

Cultural Resources Testing for the Silver Strand State Beach Project, California State Parks, San Diego County, California. As crew chief, conducted pedestrian survey and test excavations, and assisted in report production.

Archaeological Survey and Evaluations for the Star Ranch Project, County of San Diego Department of Planning and Land Use, San Diego County, California. As lab technician, cataloged and analyzed the assemblage recovered from a previous testing of the project area.

Relevant Previous Experience

Teaching

- 2014-2020: Teaching Assistant, UC Davis; taught discussion sections, labs, and lectures for Human Evolution, Archaeology, and Social Anthropology courses
- 2016: Co-Instuctor/Co-Field Director, 2016 UC Davis Archaeological Field School, Excavations in Santa Clara and Solono Counties, California

- 2017: Instructor/Principal Investigator, 2017 UC Davis Archaeological Field School, Excavations and Survey in Mariposa and Mono Counties, California
- 2018: Instructor/Principal Investigator, 2018 UC Davis Archaeological Field School, Excavations in Calaveras County, California

Publications

Hanten, N., and N. Stevens. 2010. "The Reliability of Microscopic Use-Wear Analysis on Monterey Chert Tools." *Proceedings of the Society of California Archaeology* 24.

Ross Owen, MA, RPA

Archaeologist

Ross Owen is an Archaeologist with 6 years' experience conducting Phase I and II archaeological surveys. Working on identification-level surveys Mr. Owen has acclimated to working on a diverse range of site types and landforms which has contributed to his knowledge of material culture, site formation processes, and soil development, primarily in the mid-Atlantic region, California, and Nevada.

In his role as a field/lab technician and as a field director, Mr. Owen has been involved in all stages of completing Phase I and II surveys and evaluation for compliance with Section 106 of the NHPA as well as CEQA. He also carries experience in records searches and archival work, tribal consultation, data management, field excavation, and laboratory processing. Outside of work he has sought out opportunities to present research in academic settings, speak with the public about archaeology to better communicate archaeological significance to the public.

Education

Indiana University of Pennsylvania
MA, Applied Archaeology

Boston University
BA, Archaeology

Certifications

Register of Professional Archaeologists (RPA), No. 18014

Professional Affiliations

Society for American Archaeology

Project Experience

Martis Wildlife Area Restoration Project, Placer County, California. Performed demarcation of Environmentally Sensitive Areas (ESAs) in advance of construction association with wetland restoration efforts for the U.S. Army Corps of Engineers, Sacramento District and Truckee River Watershed Council. Archaeological monitoring during construction. Fieldwork to prepare a Performance Work Statement (PWS) for the Army Corps of Engineers to assess impacts to CA-PLA-5. Preparation of reports documenting monitoring and PWS efforts and results.

Martis Valley Trail Segment 3F, Placer County, California. Conducted in-person records search and review at the North Central Information Center and compiled results in report. Pedestrian archaeological survey of project area. Preparation of report documenting negative findings. Tribal correspondence soliciting information on known resources within project area and project-related concerns.

Robinson Mine Conditional Use Permit Modification, Placer County, California. Conducted in-person records search and review at the North Central Information Center and compiled results in report. Pedestrian archaeological survey of project area.

El Dorado Irrigation District Pacific Tunnel Rehabilitation, El Dorado County, California. Conducted in-person records search and review at the North Central Information Center and compiled results in report. Pedestrian archaeological survey of project area. Preparation of report documenting negative findings, and DPR update to portion of the Mormon-Carson Emigrant Trail re-located but not impacted by project design. Tribal correspondence soliciting information on known resources within project area and project-related concerns.

Fish Springs Ranch Solar Energy Center Project, Washoe County, Nevada. Performed 4 months of monitoring. Completed survey and recordation of archaeological sites. Attribute analysis in field of prehistoric and historic resources. Conducted records search review and compilation for report. Reporting of field survey results for Nevada Bureau of Land Management, and preparation of Intermountain Antiquities Computer System (IMACS)

forms documenting new sites and updates to previously recorded sites. Guided field view of resources recorded on private lands with Next Era and Pyramid Lake Paiute Tribal Historic Preservation Officer.

Nevada Street Phase II, City of Auburn, Placer County, California. Performed archaeological monitoring of intersection realignment and utility work along Nevada Street in Auburn, California. Reported monitoring actions and results to City of Auburn and NexGen.

Round Mountain Area Project – Table Mountain Site, Butte County, California. Conducted archaeological survey and reporting for a proposed power generation facility in Butte County.

Heartland Solar Development Project, Fresno County, California. Led crew for survey of 2,000+ acre archaeological survey of a proposed solar energy project.

Gonzaga Wind Repowering Project, Merced County, California. Performed archaeological survey for California Department of Parks and Recreation Four Rivers District proposed wind farm, associated access roads and transmission lines.

Dodge Flat Solar Energy Center, Washoe County, Nevada. Prepared and reviewed BLM submission packet containing final drafts of report and BLM-required digital data. Submitted to Nevada BLM Sierra Front Field Office.

Blythe Solar Power Project, Riverside County, California. Compiled monitoring logs and weekly monitoring summaries to submit to client.

J. Chen Stone Ave Tech Studies 4050 Grange Road, Sonoma County, California. Conducted in-person records search and review at the Northwest Information Center and compiled results in report. Pedestrian archaeological survey of project area. Preparation of report documenting negative findings. Tribal correspondence soliciting information on known resources within project area and project-related concerns.

Cloverdale Unified School District Project, Sonoma County, California. Conducted archaeological survey and reporting for proposed athletic facilities for the Cloverdale Unified School District. Tribal correspondence soliciting information on known resources within project area and project-related concerns.

California State University – Chico Master Plan EIR, Butte County, California. Conducted archaeological survey and reporting of survey results. Assisted in compilation of archaeological report for Master Plan EIR document.

Woodland Community College Performing Arts and Culinary Services Facility Project, Yolo County, California. Conducted archaeological survey and reporting for a proposed university facilities expansion in Yolo County.

Arlington Solar Energy Project, Riverside County, California. Assisted in relocating, sketching and sub-meter accuracy GPS recording of WWII-era military training features as required by a Historic Preservation Treatment Plan drafted to mitigate adverse effects on National Register-eligible archaeological resources.

Dowdell Industrial Park, City of Rohnert Park, Sonoma County, California. Conducted records search review and integrated results into report meeting United States Army Corps of Engineers standards for Section 106 and CEQA compliance.

Ebbetts Pass Reach 1 Water Transmission Pipeline Capital Improvement Project, Calaveras County, California. Performed archaeological monitoring during construction of waterline by Calaveras County Water District. Conducted an evaluation for eligibility for the National Register of Historic Places for an unanticipated discovery found during construction. Prepared DPR site form and report documenting the site and site evaluation efforts. Consultation with the Calaveras Band of Mi-Wuk Indians and Caltrans District 10 throughout monitoring and site evaluation efforts.