DRAFT
Sutter Street Extension Project
Project Recommendations Memorandum

Prepared For: City of Jackson

Prepared By: Lindsey Van Parys, PE | GHD

October 21, 2020

GHD Job No. 11213552

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0. Executive Summary

The GHD Team consisting of Engineers, Planners, Environmental Scientists, Biologists, and Land Surveyors reviewed the historic data provided by City of Jackson, Amador County Transportation Commission, and the California Environmental Protection Agency on the Sutter Street Extension Project (Project). It was GHD's intent to review this information, review the existing constraints, identify the potential opportunities, analyze the previous alternatives, and determine if any new viable alternatives should be considered to extend Sutter Street from Argonaut Damn Road to Hoffman Street. On the following page is an exhibit that shows the existing conditions of the project location.

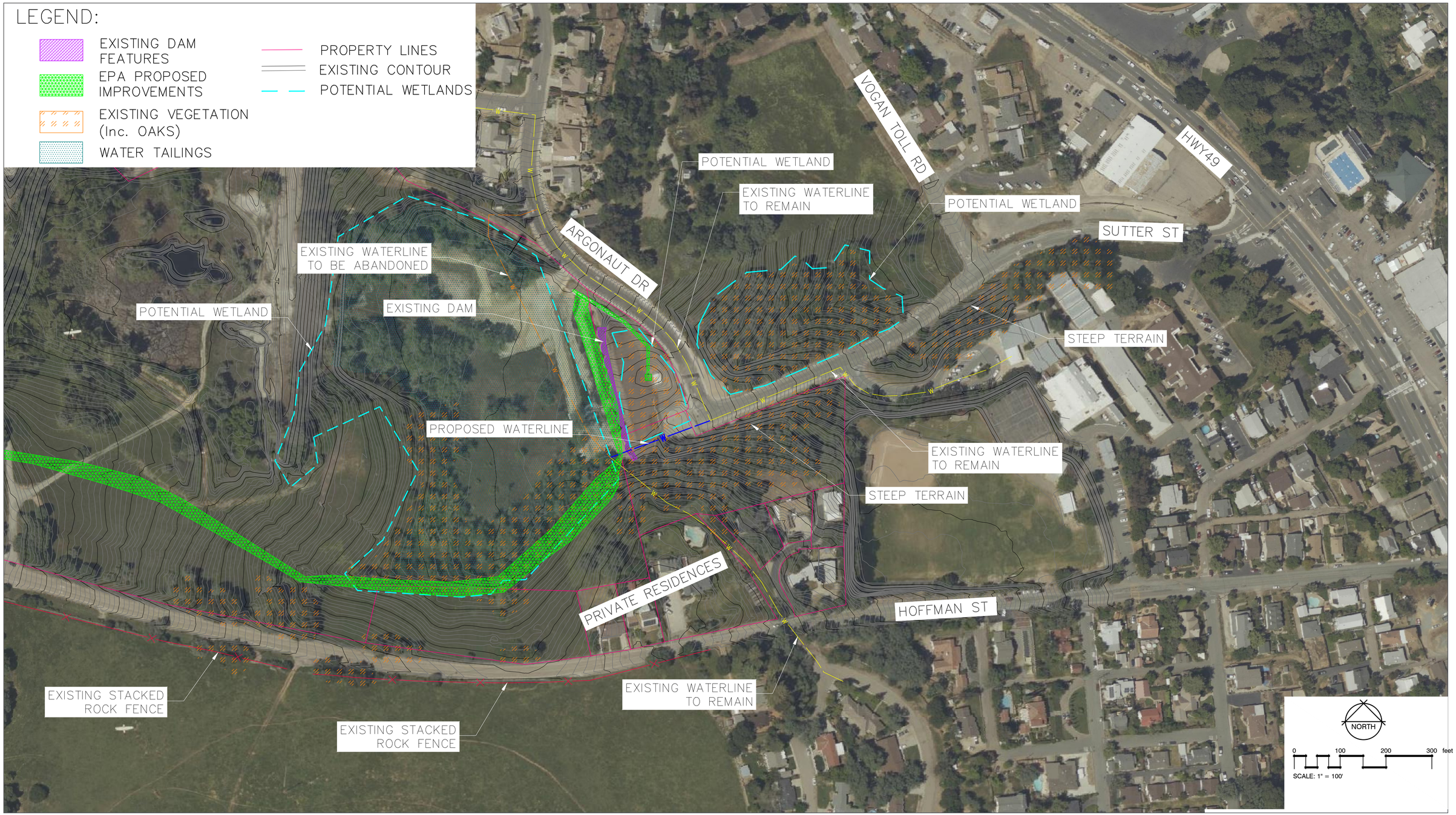
After a site visit and detailed review of the documentation, GHD developed three alternatives for preliminary screening and analysis. A stop controlled intersection that will require design exceptions (Alternative 1), a standard stopped controlled intersection built to full standard (Alternative 2), and a yield controlled intersection, a roundabout (Alternative 3).

The preliminary analysis resulted in removing Alternative 2 from further consideration, primarily due to the safety and cost implications associated with the alignment through the Argonaut Damn tailings site.

Alternative 3 is GHD's recommended alternative based on the findings presented in this memorandum. However, Alternative 1 is a viable alternative and could be moved forward to be analyzed fully during the environmental document.

GHD's recommendation is to present Alternatives 1 and 3 to Council and determine if both or one alternative should be moved into the next phase of the project.

Project Constraints



SUTTER STREET EXTENSION PROJECT

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October 5, 2020 11213552EnvConstraints

1. Introduction and Background

The City of Jackson (City), in partnership with Amador County Transportation Commission (ACTC), is proposing to realign and extend Sutter Street from State Route (SR) 49/88 to Hoffman Street in the City of Jackson. This project is referred to as the Sutter Street Extension Project (project).

Since 1999, the extension of Sutter Street has been included in the City's Circulation Element of the General Plan and has been listed as a regional project in the Amador County Regional Transportation Plan since 1997. In 2002, ACTC retained T.Y. Lin International to prepare a Project Study Report (PSR) for the project, which also included signalization of the intersection with Highway 49/88. The PSR prepared by T.Y. Lin included base mapping, a traffic evaluation (including travel demand forecasts), a geotechnical evaluation, preliminary plans, and alternative designs. The project was delayed due to contamination at the Argonaut Dam located at the existing terminus of Sutter Street. The delay was initiated to allow time for the California Environmental Protection Agency (CalEPA) and the California Department of Toxic Substance Control (DTSC) to prepare studies and remediate the Argonaut Dam. During the delay due to the dam retrofit, signalization of Sutter Street/Highway 49/88 was completed by Caltrans. Completion of this portion of the project simplifies the proposed extension portion of Sutter Street since the City could now move forward with the project at the local level.

Amador County is moving forward with a project to extend Wicklow Way, which could result in increasing the traffic on Hoffman Street and its intersection with Highway 49/88 approximately 0.2 miles south of Sutter Street. This has triggered the revitalization of the City's review of the Sutter Street Extension Project.

To continue with the Sutter Street Extension Project, the City retained GHD Inc. (GHD) to assess alternatives and provide recommendations. GHD will review the previous documentation prepared for the project and prepare updated environmental and design recommendations. Since the time the project was first analyzed by T.Y. Lin International, the project site has changed. GHD will work closely with the City to make sure the timeframe of Wicklow Way is taken into account when moving this project forward, GHD will work diligently to provide recommendations to the City on the tasks needed to complete the delivery of the project through construction.

2. Project Description and Current Status

The project would realign and extend Sutter Street from State Route 49/88 to Hoffman Street in the City of Jackson. The proposed project would extend Sutter Street to Hoffman Street, east of the County Complex. The purpose of the project is to relieve traffic congestion along Hoffman Street and divert traffic to the safer signalized intersection of Sutter Street and Highway 49/88.

Traffic currently utilizes Stoney Creek Road/Hoffman to access SR 49. Hoffman Street is a steep two-lane road with minimal sight distance at its intersection with SR 49. The project would reduce through-traffic along Hoffman Street by directing traffic to Sutter Street; therefore, improving traffic circulation between SR 49 and Stoney Creek Road.

GHD engineering and environmental staff conducted a field review on June 2, 2020, to assess the project site and perform a preliminary screening for potential opportunities and constraints. Based on the research collected, we have assembled a team of specialists in Environmental, Hazardous Waste, and Engineering to provide the City with the knowledge and expertise needed to determine if the prior work completed for the

project is still viable or if it needs to be updated as well as the environmental requirements and engineering components necessary to move this project into final design and construction.

GHD's evaluation and recommendations are presented below.

3. Previous Project Studies/Reports

GHD has reviewed the existing documentation previously prepared for the project, which includes the following:

- 2002 letter correspondence between City of Jackson and Amador County Transportation Commission;
- 1981 City of Jackson General Plan Safety Element (regional geology);
- July 18, 1996 Argonaut Mine Tailing Site Excavation and Fence Installation Health and Safety Plan – Section 2.0 Hazards Evaluation;
- 2002 Caltrans Preliminary Environmental Studies (PES) Form and any studies that were prepared in support of the PES;
- January 28, 2003 City comments on the Sutter Street Extension Project Study Report;
- April 24, 2002 Project Information Report prepared by T.Y. Lin International;
- July 29, 2002 "DRAFT" Geotechnical Review prepared by T.Y. Lin International; and
- July 30, 2002 "DRAFT" Initial Site Assessment prepared by T.Y. Lin International.

The draft Geotechnical Review Report, draft Initial Site Assessment (ISA), as well as the PES Form and Project Information Report prepared for the project evaluated four alternative routes. The alternatives that were previously evaluated included the following:

- **Alternative 1:** From Hoffman Street, about 3,200 feet west of SR 49/88, extends east-northeast to a new intersection with Argonaut Lane about 325 feet north of the existing intersection, then to a new intersection with Vogan Toll Road about 100 feet north of the existing intersection, then realigns with existing Sutter Street before turning to the new SR 49/88 intersection.
- **Alternative 2:** From Hoffman Street, about 3,000 feet west of SR 49/88, extends east-northeast to the Vogan Toll Road where it aligns with existing Sutter Street. This alternative appears to encroach, at least partly, onto the southern end of the tailings dam.
- **Alternative 3:** From Hoffman Street, about 2,900 feet west of SR 49/88, extends east-northeast and realigns with existing Sutter Street about 150 feet west of its intersection with Vogan Toll Road.
- **Alternative 4:** From Hoffman Street, about 2,800 feet west of SR 49/88, extends east-northeast and crosses existing Sutter Street about 500 feet east of its intersection with Vogan Toll Road, then extends to the new SR 49/88 intersection. This alternative, in addition to existing roads, crosses grades slopes and pads on the Jackson Junior High and Amador County Unified School District office properties, including the location of portable classrooms.

In addition to the alignments described above, each alternative would have an east-bound connector between the subject alternative and Hoffman Street that would conform to Hoffman Street about 2,100 feet west of SR 49/88.

3.1 Geotechnical Report Key Findings

The draft Geotechnical Review Report concluded that no significant geologic hazards were identified within the site and nearby vicinity, and the project is considered feasible with respect to geotechnical issues. However, it is noted that with any alternative, significant grading will need to be done and retaining walls will most likely be needed to minimize impacts to the adjacent properties and environmental features. The Report identified the primary geotechnical issues as being 1) potential consolidation and/or liquefaction of the existing tailings; 2) potential effects of the project on the concrete dam; 3) excavation difficulty in hard rock; and 4) quality of excavated material for use as fill. Stability of the existing earth tailings dam in the vicinity of the project and sedimentation from unvegetated tailings, piled up-gradient from the project might also be significant considerations.

Additionally, the draft Geotechnical Review Report included the following findings.

- The site is within an area subject to strong ground shaking from nearby faults. However, with the exception of tailings materials, the potential for secondary seismic events such as liquefaction, soil lurching, or rapid settlement is considered low owing to the firm consistency of the weathered rock materials and the overall competency of native rock.
- The potential occurrence and effect of shallow groundwater in the area of flat lying tailings will need to be evaluated. Shallow groundwater might be a consideration for underground utilities or other relatively shallow excavations in the flat lying area at the east end of the project. Otherwise, groundwater is generally not expected to be a significant consideration in project design or dry-season construction. Seasonally, seepage could be encountered in soil or in rock fractures, particularly along natural drainage swales.
- Native soil and existing embankment fills are expected to be readily excavated by typical earth moving equipment. Considering its typically fractured nature, rock excavation will likely be achievable, though possibly difficult, with heavy equipment. However, "hard rock" that requires pneumatic tools or blasting to accomplish cannot be ruled out.
- Native soils and at least the upper several feet of rock are expected to generate a high percentage of materials suitable for reuse as embankment.
- A correspondingly low percentage of oversize materials (more than 8-inch dimension) is anticipated to be generated in these areas. Oversize material, and a corresponding lower amount of finer material, is expected to be generated primarily from the deepest cuts. Oversize material can be used in fills where placed in accordance with Caltrans specifications, but should be placed in the deepest portion of fills and below anticipated utility line excavation depths.
- Sediment has been reported to erode from un-vegetated tailings up-gradient from the project. The potential for significant volumes of eroded sediment to reach the project area, and their potential effects, should be evaluated.

3.2 Initial Site Assessment (ISA) Key Findings

The draft ISA concluded that information from ACEHD and DTSC indicates there are significant hazardous material concerns related to tailings from the Argonaut Mine and additional study is recommended. The ISA stated that there is a possibility of substantial economic liability associated solely with obtaining title to any portion of the mine tailings, and potentially additional liability if project construction is alleged to have a detrimental effect on existing environmental conditions. Contaminated runoff, sediment from erosion, and dust

originating from tailings within the right of way are also a liability concern. The draft ISA recommended that legal counsel regarding such liabilities should be obtained early in the planning process.

The draft ISA concluded that other than the conditions associated with mine tailings, the potential for the proposed construction to encounter significant hazardous material or petroleum product contamination within the project alignments is generally low. However, information obtained during the preparation of the draft ISA indicates a number of conditions that have a potential for contamination that might affect the project. Additional study is also recommended relative to these conditions. It is expected contamination associated with these conditions, if any, can be mitigated by typical engineering practice.

Older residences and other old buildings (e.g. a possible previously existing toll house on Vogan Toll Road) might have existing or previously existing heating oil or motor fuel storage tanks. Although, the possibility that contamination from such tanks exists on the site cannot be ruled out, further study is not considered warranted based on the lack of knowledge of the actual existence or locations of such tanks.

Additionally, the following findings were included in the draft ISA:

- Testing indicates within the project limits there are occurrence of: heavy metals, arsenic, cyanide, acid, and other contaminants, some at concentrations well above the criteria to classify as hazardous waste.
- The reports of very acidic water on the western portion of the mine tailings indicates a potential that contaminated groundwater has migrated east of the tailings. A program of exploratory borings, sampling, and analytical testing of samples is recommended for groundwater and soils that are below historic high groundwater levels and are within the maximum depth of anticipated excavations (including future utilities).
- SR 49/88, Hoffman Street, Vogan Toll Road, and the segment of Sutter Street east of Vogan Toll Road have all existed, apparently with little variation from their existing locations, since before the use of automobiles. As such, soil adjacent to these roads might be affected by lead deposited from the exhaust of cars using leaded gasoline, known as aerially deposited lead (ADL). A program of soil sampling and analytical testing of the samples to assess the presence, concentrations and distribution of ADL is recommended.
- Sutter Street west of Vogan Toll Road and the adjoining portion of Argonaut Lane were constructed sometime after 1984. Between 1978 and 1987, the phase-out of leaded gasoline had cut its use by 90 percent and the phase out of lead from on-road gasoline was completed in 1992. Further study should be made to determine when these roads were constructed, as a basis for determining if they should also be assessed for the presence of ADL.
- No evidence of naturally occurring asbestos was identified during the preparation of the draft ISA.
- Yellow paint used for traffic stripping can contain potentially hazardous levels of chromium and lead. Yellow pavement markings to be removed should be disposed of in accordance with the Caltrans Standard Special Provisions for removal of yellow stripes and pavement marking.

4. Environmental Opportunities & Constraints

The following sections discusses Federal, State, and City regulations and requirements that pertain to this project.

4.1 Federal Regulations

Federal regulations that would apply to this project would include:

- National Environmental Policy Act of 1969 (NEPA) (if federal funding is utilized)
- Endangered Species Act (ESA)
- Clean Water Act (CWA)
- Migratory Bird Treaty Act (MBTA) / Bald and Golden Eagle Protection Act (BGEPA)

4.2 State Regulations

State regulations that would apply to this project would include:

- California Environmental Quality Act (CEQA)
- Porter-Cologne Water Quality Act
- California Endangered Species Act (CESA)
- California Fish and Game Code (FGC)

4.3 The City of Jackson Development Code

The City of Jackson Development Code applies to:

> "all land uses, structures, subdivisions, lot line adjustments, and development within the City of Jackson, as follows:
>
> A. New land uses or structures, changes to land uses or structures. It shall be unlawful, and a violation of this Development Code, for any person to establish, construct, reconstruct, alter, or replace any use of land or structure, except in compliance with the requirements of Section 17.02.020 (Requirements for Development and New Land Uses), and Chapter 17.130 (Nonconforming Uses, Structures, and Parcels)" (City of Jackson Municipal Code §17.01.040).
>
> Section 17.40.070, Criteria for Tree Removal, of the Development Code states:
>
> B. All development shall conserve trees. A minimum of 3:1 replacement ratio shall apply upon removal of any such tree having a diameter greater than sixteen inches at four and one-half feet from grade. Oak trees removed shall be replaced with like species. Trees planted as replacements shall be maintained for five years, and again replaced and maintained if they fail to survive within that period.
>
> C. No person shall cut down or remove any tree having a diameter of eight inches or greater on any public property, without review and approval by the Planning Commission.
>
> D. Any development proposal which calls for the removal of any tree having a diameter of eight inches or greater shall require Planning Commission approval. The subject determination will be based upon reasonable criteria, including, but not limited to, the following;

1. The condition of the tree with respect to its general health, damage, status as a public nuisance or traffic hazard, danger of falling, interface with utility services, and its status as host for parasitic plants, pests or diseases endangering other species of trees or plants with infection or infestation;

2. The topography of the land and the effect of the requested action on soil retention, water retention, and diversion or increased flow of surface water. Developers are encouraged to work with existing terrain;

3. The number, species, size and location of existing trees in the area and the effect of the requested action on historic values, scenic beauty, shade areas, air pollution and the general welfare of the City as a whole" (City of Jackson Municipal Code §17.40.070).

4.4 State and Federal Database Review

The following databases were reviewed for this effort:

- California Natural Diversity Database (CNDDB) (CNDDB 2020);
- California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2020);
- United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Tool (USFWS 2020);
- USFWS National Wetlands Inventory (NWI) mapper (NWI 2020); and
- Natural Resources Conservation Service's (NRCS) Web Soil Survey (NRCS 2020).

4.5 Results and Discussion

From database search results, Moore Ditch, a purple line-stream/drainage way, has been decommissioned and is no longer conveying water. In the vicinity of this area there also appears to be a potential wetland. Both of these features are overlapping or adjacent to the roadway alignment. Impacts to wetlands would, depending on the acreage of disturbance, trigger State and Federal permit requirements. Environmental permits may include U.S. Army Corps of Engineers 404 Nationwide Permit for permanent impacts to less than 0.5 acre of jurisdictional waters, Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification, and California Department of Fish and Wildlife Section 1602 Lake and Streambed Alteration Agreement. Environmental permits are further identified in Section 12.1 of this memorandum. In addition to environmental permitting, wetland and stream impacts would trigger mitigation requirements under CEQA.

One rare plant occurrence overlaps the proposed project area, and several foothill yellow-legged frog and western pond turtle occurrences are within the dispersal range of the proposed project area. It is also possible that California threatened tricolored blackbirds could utilize the adjacent wetland for nesting. Federally threatened California tiger salamanders have also been recorded in the general area, but no occurrences have been documented within 7.5 miles of where the project is proposed. Additional study should be conducted to verify the presence of special-status plant or animal species, as presence or potential presence triggers coordination with the California Department of Fish and Wildlife (CDFW) and mitigation under CEQA.

Furthermore, the road construction will require the removal of several trees. Removal of trees over eight inches in diameter will require approval from the City per Section 17.40.070 of the City's Development Code. As such, the project would be subject to a minimum 3:1 replacement ratio for all trees meeting the minimum diameter

requirement, as well as a 5-year maintenance period. Trees to be removed could also contain active bird nests, which are protected under the Migratory Bird Treaty Act (MBTA), or roost sites for special status bats. Nesting and bat surveys are warranted to determine presence, and would be identified as mitigation under CEQA.

Projects that include disturbance of native, undisturbed soils have a potential for encountering previously undiscovered archeological resources. As such, it is standard practice to apply mitigation for procedures and actions should previously undiscovered resources be encountered. Mitigation for wetlands, tree replacement, nesting birds, construction-period fugitive dust, and undiscovered archeological resources are further described in Section 12.4 of this memorandum.

5. Hazardous Waste

5.1 Potential Contamination Issues Related to Mine Tailings

Contaminants of potential concern (COPCs) in the project area relating to the former area usage for mine tailings include arsenic, lead, and mercury in the sediment, soil, surface water, and groundwater (if anticipated to be encountered). Historical sampling data has confirmed that arsenic concentrations exceed site-specific screening levels across the entire area of the proposed project. Lead and mercury have not consistently exceeded site-specific screening levels in the area, but should still be considered in project planning. The project cannot create or spread any existing contamination. For all construction work, a Site-Specific Health and Safety Plan should be developed by an Industrial Hygienist to ensure worker protections during all construction activities. Any soil excavated during construction work should be handled as potentially hazardous waste and will need to be removed and managed according to applicable codes and regulations, unless approval is granted by the CalEPA to relocate soil to other tailings areas in lieu of off-site disposal. Historical sampling data indicates that excavated soil could be classified as hazardous waste by the State of California (non-RCRA) based on elevated arsenic. Additionally, landfills may require an evaluation of pH for profiling, and while sampling results have been generally neutral, mine tailings do have a potential for acidic conditions. The closest landfills to accept State of California hazardous waste are Waste Management in Kettleman City, California, or Clean Harbors in Buttonwillow, California. Project personnel responsible for the excavation of contaminated soil and their disposal as hazardous waste shall ensure that sufficient resources (staff, equipment, expertise, etc.) are available to perform these activities safely and efficiently.

The Project Manager, Competent Person, and/or Health Safety Officer should have the following training, and should periodically review site safety procedures and site conditions:

- 40-hours hazardous waste and emergency response (HAZWOPER) training (must conform to 29 CFR1910.120(e));
- Three days of documented supervised hazardous waste operations on the job training;
- 8-hour HAZWOPER supervisor training; and
- 8-hour refresher course if initial 40-hour HAZWOPER training or supervisor training was completed more than 12 months previously.

All Project Personnel shall be trained in the following subjects:

- California Occupational Safety and Health Administration Construction Safety;
- Lead Awareness Training;
- 40-hour HAZWOPER Training;

- 8-hour HAZWOPER Refresher Training; and
- Respiratory Protection Training.

Potential routes of exposure during construction projects that should be considered for on-site personnel include: inhalation, skin contact, ingestion, and eye contact.

6. Coordination with Environmental Protection Agency (EPA)

GHD staff coordinated John Hillenbrand with EPA regarding the project. Mr. Hillenbrand provided GHD with several documents and resources included a geotechnical report, GoogleEarth .kmz files of the boring locations and tailings locations, and draft site investigation report. The EPA also has plans to construct surface water channels within the project limits. EPA provided GHD with a conceptual plan of the water channels, which is included on the following page and is shown on the alternative exhibits included with this memorandum. The drainage channel is in conflict with some of the proposed alternatives. Mr. Hillenbrand indicated EPA would work with the City to minimize overlap with the two projects but that there was limited flexibility on where the channel could be located. It has also been requested to determine if the water line can be relocated to avoid the proposed EPA improvements.

Due to the fact that the channel will be constructed with the bottom and sides having low permeability material it is possible that surface runoff from the road could be allowed to discharge to the drainage channel but that no drainage could occur on top of the mining tails.

The EPA indicated they were not supportive of Alternative 2 due to the extent of impact to the tailing site and to the channel.

ARGONAUT MINE
SUPERFUND SITE
U.S. ENVIRONMENTAL PROTECTION AGENCY

JACKSON, CALIFORNIA

CONCEPTUAL PLAN - SURFACE WATER CHANNELS

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGN INFORMATION	
DESIGNED BY:	DH
DRAWN BY:	CNS
CHECKED BY:	LHB
PROJECT MANAGER:	SW

SEAL

EA Engineering, Science, and Technology, Inc.
555 University Avenue, Suite 110
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DATE: NOVEMBER 2019

PROJECT NUMBER: 1518935

C-202

SHEET: 1 OF 1

CONCEPT DESIGN - NOT FOR CONSTRUCTION

7. Coordination with Other City Projects

It is GHD's understanding, the City is intending to move forward with a project to modify the existing waterline within the Stutter Street Extension project limits. This project was discussed with the EPA and they would like to see this move forward. The proposed plan includes abandoning the existing waterline through the dam site and installing a new waterline under the Sutter Street extension. It is recommended this work be done concurrent with the Sutter Street Extension Project to minimize overall cost to the City, minimize disturbance of the contaminated soil, and avoid unintended conflicts with the project's proposed storm drain systems or proposed retaining walls.

Proposed Water Line Project

8. Topographic Data and Right of Way

Topographic Data

The topographic data provided by the City was obtained before the retrofit project occurred and therefore, is out of date. The EPA obtained topographic data for their water channel project, however, the information provided to GHD by EPA on the updated topographic mapping does not include the level of detail on trees, fences, etc. that would be needed for this project. Furthermore, the topographic data the EPA provided does not provide enough information along existing Sutter Street or Hoffman Street. Therefore, GHD recommends the City obtain new topographic surveys, ideally, after the EPA's water channels are constructed, if timing allows.

Right of Way

Upon review of readily available documents, that include filed maps and Assessor's Parcel Maps, GHD's land surveyor noticed two potential easements to address. The first is a water main that crosses the proposed alignments, and is already depicted on our alternative exhibits. The second is a siphon easement that crosses the proposed routes approximately 60 feet west of the intersection of the centerlines of Sutter Street and Argonaut Drive. See attached Parcel Map and Plat of Survey at the end of the memo for reference on the siphon easement location. A Preliminary title Report will be needed to determine all potential title encumbrances.

APN 044-010-084

All alternatives have Sutter Street moving to the south of the existing location and moving further into the parcel as the extension continues east. In addition, all alternatives call for a retaining wall along the southern side of the new route. This may effectively remove access to a public road for a majority of the parcel. The remaining portion of the parcel with access to Sutter Street might be deemed too small to be a viable parcel.

The acquisition of right of way through this parcel may require the purchase of the entire parcel.

APN 044-010-074

All alternatives have Sutter Street moving southwesterly through this parcel. Each alternative calls for the new route to segregate a small portion of this parcel to the southeast from the much larger portion. This segregation will not create new legal parcels by law, but the result will be one legal parcel divided by a road. This could be a factor in determining whether this creates an uneconomical remainder to the southeast.

The acquisition of right of way through this parcel may require the purchase all that portion of the parcel being southeasterly of the northwesterly right of way acquisition line.

APN 044-019-001

For all alternatives, it would appear that nearly the entire parcel would need to be acquired. The Amador County Transportation Commission owns this parcel and I am not sure how the ownership might affect the acquisition. This may be the simplest acquisition to complete.

Parcel Acquisition

SUTTER STREET EXTENSION PROJECT

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September 28, 2020
11213552ROW_Parcels_Exhibit.dwg

9. Alternative Analysis and Screening

In order to adequately screen the prior alternatives and look at the potential for new alternatives, GHD put together a constraints analysis, shown on the following page.

9.1 Alternative Considerations

Design Speed

Based on City of Jackson's Improvement Standards, the extension of Sutter Street will be designed as a Collector Street. The design speed for a Collector Street classification as outlined in Section 10.04 of Design Speed of City of Jackson Improvement Standards is 35 miles per hour (MPH). Hoffman Street is classified as an Arterial per City of Jackson Improvement Standards with a design speed of 45 miles per hour (MPH). Therefore, the alternatives were designed based on this parameter, unless otherwise noted.

Horizontal & Vertical Design

The Horizontal Design Standards for the extension of Sutter Street are based on City of Jackson's Improvement Standards Section 10.02 Street Classifications. Based on City of Jackson Drawing No. ST-1, a Collector Street includes 12-foot lanes, 8-foot shoulders, and a 5-foot sidewalk. Per section 10.03 of City of Jackson's Improvement Standards, the minimum grade will be 1.0% to a maximum of 15.0% with a standard cross slope of 2.0%. As described in Section 10.05 of City of Jackson Improvement Standards, fill and cut slopes will be 2:1 or flatter. Due to existing poor soil conditions, unless the slopes are reinforced, slopes will need to be flattened extending the overall disturbed footprint. This project will require a height of about 20 feet of fill at the highest point and about a maximum height of 15 feet for cut.

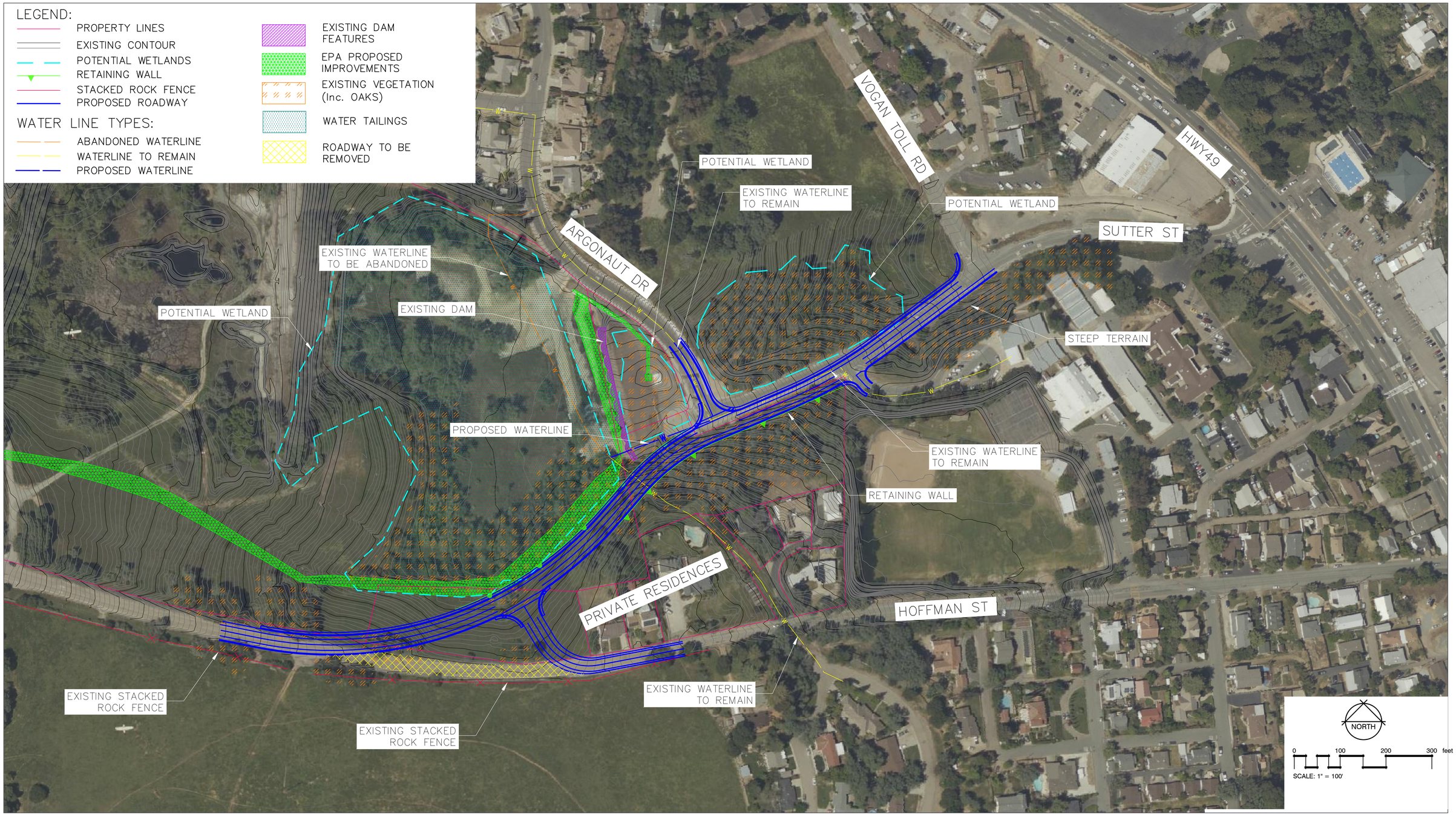
9.2 Preliminary Alternative Layout

During the process of analyzing the most suitable alternative for this project, GHD took into account the project purpose and need, the existing constraints and opportunities, and future growth of the surrounding areas. The design team looked at the previously proposed alternatives and look for opportunities for alternative options. As a result we developed the following three alternatives to be analyzed:

- **Alternative 1 - Stop Controlled –** This alternative extends Sutter Street and introduces horizontal curves to minimize impacts to the EPA's water channel. Hoffman Street T's into Sutter Street and is proposed to be stop controlled. In order to minimize impacts to adjacent features and the proposed water channel, this alternative does not meet all design standards as noted below:
- **Alternative 2- Stop Controlled Full Standard –** This alternative extends Sutter Street in the most direct way to minimize costs for grading, etc. Hoffman Street T's into Sutter Street and is proposed to be stop controlled.
- **Alternative 3 - Roundabout –** This alternative extends Sutter Street but constructs a roundabout at the intersection of Hoffman Street.

Each of these alternatives are shown on the following pages.

Alternative 1- Stop Controlled



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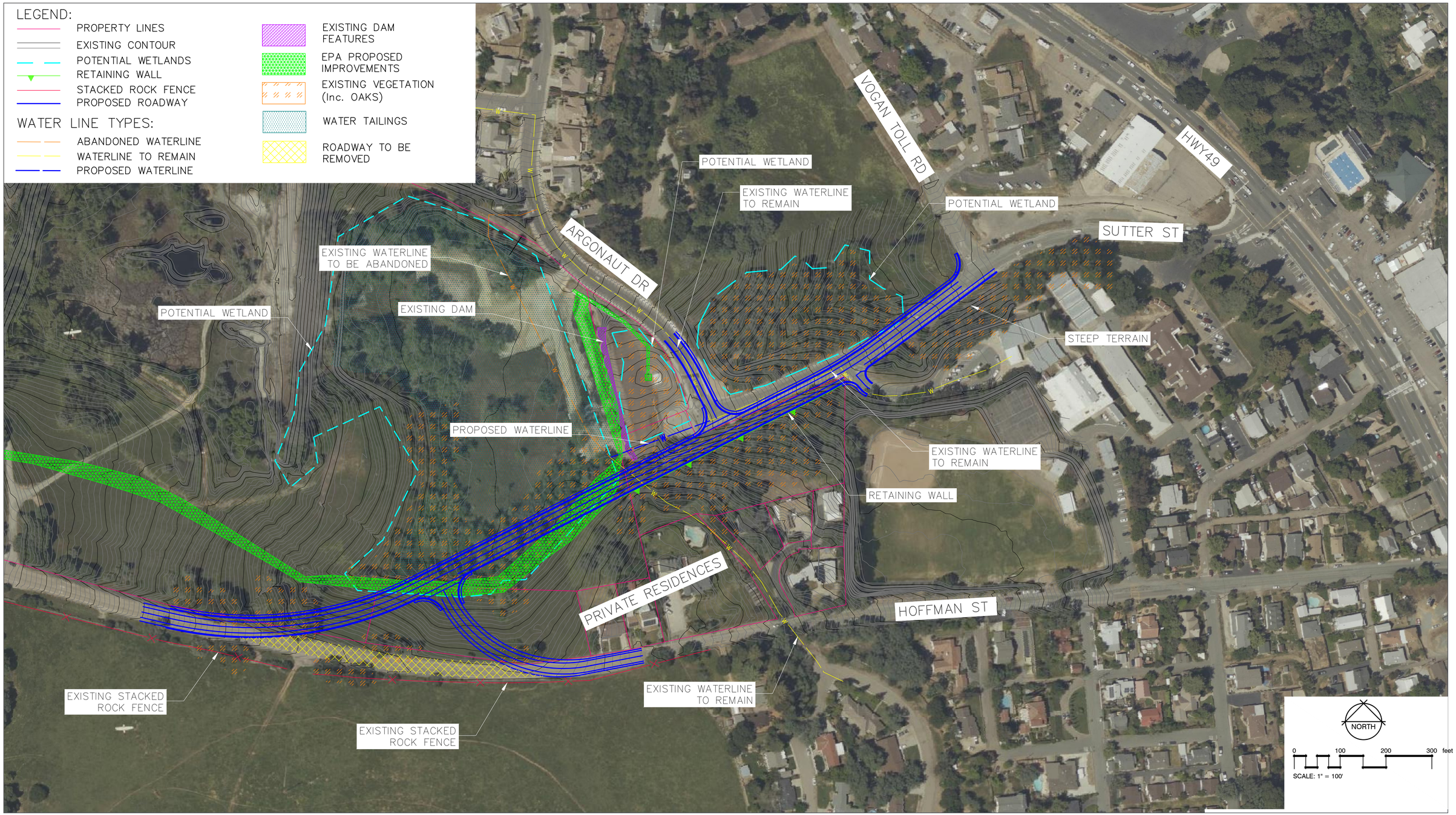
October 5, 2020 11213552RA002_EX.dw

Alternative 2- Stop Controlled Full Standard



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October 5, 2020 11213552RA002_OPT2_

Alternative 3- Roundabout Controlled

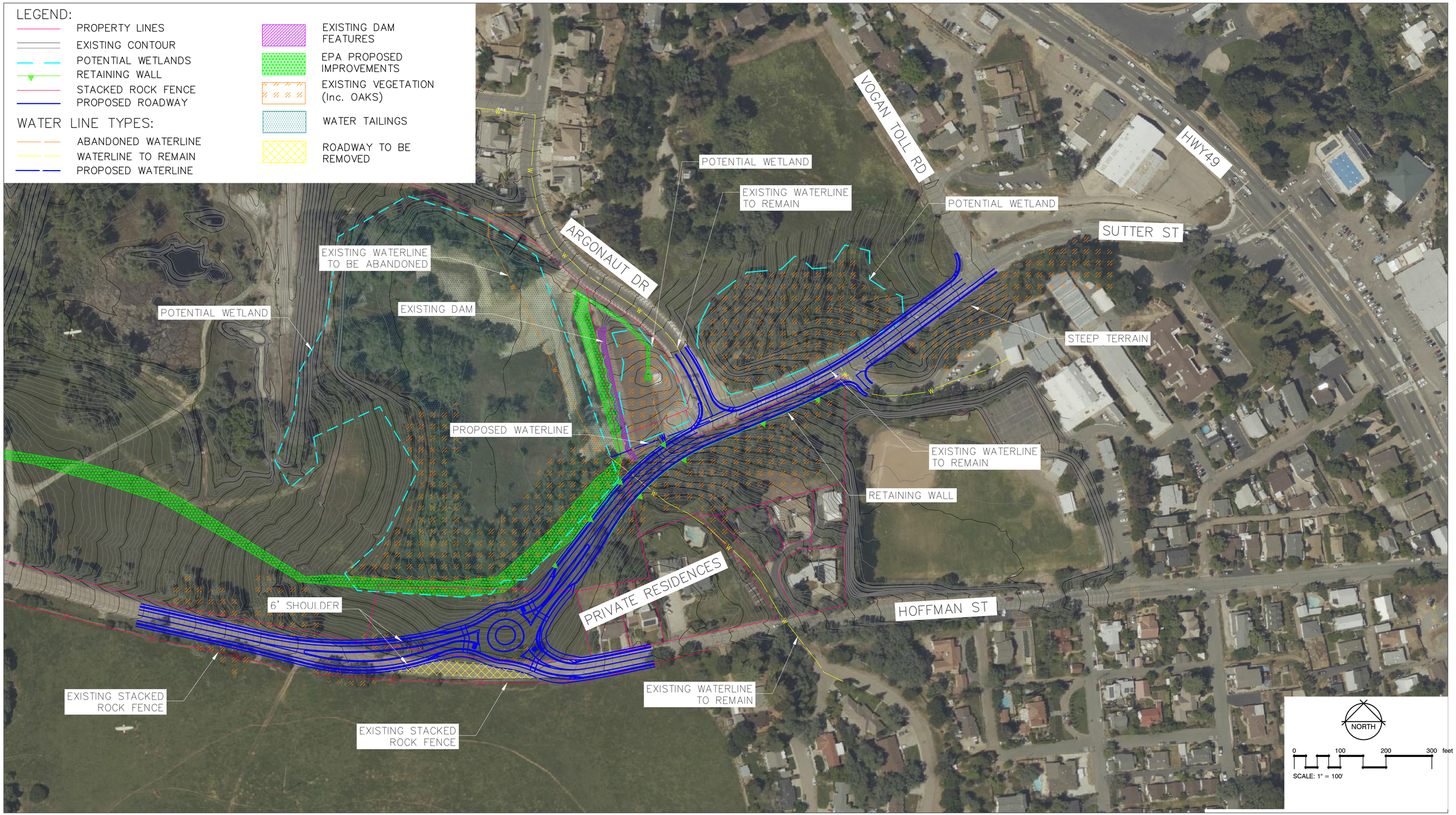
LEGEND:

- PROPERTY LINES
- EXISTING CONTOUR
- POTENTIAL WETLANDS
- RETAINING WALL
- STACKED ROCK FENCE
- PROPOSED ROADWAY

WATER LINE TYPES:

- ABANDONED WATERLINE
- WATERLINE TO REMAIN
- PROPOSED WATERLINE

- EXISTING DAM FEATURES
- EPA PROPOSED IMPROVEMENTS
- EXISTING VEGETATION (Inc. OAKS)
- WATER TAILINGS
- ROADWAY TO BE REMOVED



SUTTER STREET EXTENSION PROJECT

Jackson, California

GHD
943 Reserve Drive, Suite 100
Roseville, CA 95678 USA
T 1 916 782 8688 W www.ghd.com
GHD Inc.

October 5, 2020 11213552RA003_OPT3_

9.3 Preliminary Alternative Analysis

After the alternatives were developed, GHD conducted a high-level preliminary analysis of the three alternatives. This analysis is presented in the table below.

Alternative Comparison Table

Alternative (Alt.)	Non- Standard Features	Safety	Alignment	Potential Wetland / Biological /Tailings Impacts	Tree Removal	Impacts to EPA Channel	Structures	Right of Way	Other Considerations
Alt. 1	Horizontal curve radius of 99' which equates to 20 mph design speed	The non-standard curve will result in needed curve warning signs and may impact driver speed.	Introduced additional curves. Pulls Hoffman St. further north from the existing roadway, improving the approach to Sutter St. Aligns Sutter St to be the "priority"/major street	Estimated little to no permanent impacts to wetlands. Minimal indirect/temporary impacts to wetlands in two areas. Minimal impacts to the tailings	Impacts protected trees	Minimal	Tall retaining walls	Requires acquisition or easements from 4 properties. Closer to private residents, may add costs to do enhanced screening and/or noise abatement	Smaller construction footprint
Alt. 2	None	The straight nature of the Sutter St alignment will allow for faster speeds. This straight alignment improves sight distance for Hoffman St.	The straight nature of this alignment may result in higher speeds along the corridor. Aligns Sutter St to be the "priority"/major street	Estimated 0.6 acre of permanent impacts to wetlands. Minimal indirect/temporary impacts to wetlands in two areas. Impacts to the tailings area and will leave an "island" of contamination which may require additional drainage infrastructure or other hazardous materials mitigation (costs for these not included in the estimate); if removal of contaminated soil beneath the planned road surface is required, cost would increase by several million dollars	Greatest impacts to protected trees	Significant impacts	Retaining walls required, but less extensive than Alt. 1	Requires acquisition or easements from 4 properties. More acreage than Alternative 1 Further away from private residences than alternative 1.	Larger construction footprint
Alt. 3	6' Shoulders at roundabout**	This is the safest option of the 3 and provides accommodation for bicycles and pedestrians as well. Also helps address sight distance issues.	The alignment assists in sight distance concerns. Does not align Sutter St to be the "priority"/major street	Estimated little to no permanent impacts to wetlands. Minimal indirect/temporary impacts wetlands in two areas.	Impacts protected trees substantially similar to Alt. 1	Minimal	Retaining walls required,	Requires acquisition or easements from 4 property owners.	Larger construction footprint

** With the roundabout design guidelines it is standard to remove shoulders within the approach to the roundabout to meet fast path criteria, which is a critical safety component of the roundabout. Therefore, on the approach the City's standard 6 foot shoulder will not be accommodated within the roundabout control limits.

These alternatives were presented to the City and the EPA and based upon the alignment of Alternative 2 and the impacts to the tailing area, it would require a Removal Action Work Plan (RAWP). After preparation, the RWAP would require review/comment from EPA and DTSC, incorporation of any updates, followed by a minimum of one public comment period during which the Removal Action Work Plan would be available to affected residents electronically and at the local library. All comments received would need to be addressed prior to implementation. Typically the DTSC involves reviews by Project Management, Toxicology, Geology, Industrial Hygiene, Public Participation, and Legal units within their organization.

The preparation of the Removal Action Work Plan, including all draft review and comment incorporations, takes a minimum of 1 year and could take several, depending upon the comments received. Anticipated cost of Removal Action Work Plan preparation is $75,000. There would also be oversight costs from the DTSC and EPA associated with their reviews, with an estimated cost of $100,000.

Therefore, due to the implications of cost, time and safety, Alternative 2 is recommended to be dropped from further analysis.

10. Estimated Alternative Costs

GHD has developed a preliminary cost estimate for the two alternatives as summarized in the table in the Table Below. This estimate has been prepared in a similar manner to the Caltrans 11-page estimate, which includes soft costs (environmental, survey, and design services, right of way engineering, acquisition support) and hard costs (construction, utility relocation, and right of way acquisition). Cost of relocating utilities has been based on existing utility data provided to GHD. Intersection lighting has been assumed to meet minimal intersection lighting standards. Decorative landscaping has not been included for either alternative, costs have been estimated with the assumption of returning graded areas to native conditions. Additional environmental mitigation costs were not included at this time. This estimate also assumes that no water quality or water treatment facilities are included. Detailed estimates for all three alternatives can be found attached to this memorandum.

Alternative (Alt.)	Environmental/ Preliminary Engineering	Design	Construction support	Contingency	Construction Cost	Total
Alt. 1	$515,692	$773,539	$515,692	$1,547,077	$5,156,924	**$8,508,925**
Alt. 3	$544,759	$817,138	$544,759	$1,634,277	$5,447,589	**$8,988,522**

11. Design Recommendations

Based upon the alternative analysis, Alternative 1 is the most cost effective alternative. However, Alternative 2 will provide higher safety benefits and will reduce travel speeds over Alternative 1.

Alternatives 1 and 3 are both viable alternatives and could be implemented. It is recommended the City review these alternatives with stakeholders, and present the two alternatives to Council and determine if both or one alternative should be moved into the next phase of the project.

Based on the review of the existing documentation the following studies/activities are recommended:

- Supplemental geotechnical report be obtained due to the changes made to the project location with the dam retrofit area. The supplemental report should take into account the potential location of the retaining walls and provide recommendations for the retaining wall and pavement design. The supplemental report should also evaluate the extent of the groundwater in the low lying areas.
- Right of Way Boundary Resolution
- Updated topographic survey
- Tree survey with arborist report

12. Environmental Recommendations

12.1 Permits and Surveys

Upon review of existing information from federal and state databases, it is advised that the following permits and surveys are pursued:

- California Department of Fish and Wildlife Section 1602 Lake and Streambed Alteration Agreement;
- Aquatic resource delineation of Moore Ditch and adjacent wetland edge for U.S. Army Corps of Engineers and Regional Water Quality Control Board;
- U.S. Army Corps of Engineers 404 Nationwide Permit for permanent impacts to less than 0.5 acre of jurisdictional water.
- Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification
- Central Valley Regional Water Quality Control Board general construction activity storm water discharge permit/Stormwater Pollution Prevention Plan (SWPPP)
- Tree inventory survey by a certified arborist to support the City of Jackson land development permit process;
- Elderberry bush (host plant for federally threatened valley elderberry longhorn beetle) survey;
- Archeological Survey Report for cultural and tribal cultural resources
- Rare plant surveys to cover special status plant bloom periods in March, June, and July; and
- Pre-construction nesting bird survey, if construction is anticipated between (February 1 through August 31), and a pre-construction bat survey.

Avoidance and minimization/mitigation measures to install exclusion fencing around impact areas to prevent impacts to special status amphibians and reptiles. These measures could be in concurrence with Stormwater Pollution Prevention Plan (SWPPP) measures.

12.2 Environmental Document and Studies

Based on a review of the project scope, existing documentation for the project site, and existing conditions, it is highly likely that potential environmental impacts may be mitigated. Therefore, an Initial Study/Mitigated Negative Declaration is recommended as the appropriate CEQA document. In addition to the surveys identified in Section 12.1, above, the following technical studies are recommended to support and substantiate the project's CEQA document:

1. **Air Quality and Greenhouse Gas Technical Memorandum**

   A technical memorandum that details the project parameters, assessment and modeling methodology, thresholds of significance, and modeling output for air quality and greenhouse gas emissions. The memo would quantify construction and operational emissions.

2. **Traffic Study**

   It is recommended that the traffic study conducted as part of the original Project Study Report be revalidated and the traffic forecasts updated based on the regional models and studies conducted for the Wicklow Way extension.

3. **Construction Noise Technical Memorandum**

   A technical memorandum that details the project parameters, assessment and modeling methodology, thresholds of significance, and modeling output for construction noise impacts at the nearest potential receptors. It is assumed that the project would not increase trips through the project area, but instead shift existing and projected trips from one roadway to another. Therefore, it is assumed that operational noise impacts may be qualitatively assesed.

4. **AB 52 Tribal Consultation**

   AB 52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation. A notification letter to the desginated contact or tribal respresentative for tribes who have requested consultation, if any, should be prepared and sent.

5. **Phase 2 ISA**

   It is recommended the additional studies and analysis referred to in the draft ISA are completed in this phase of the project.

Currently, the project does not include any federal funding and, as such, the National Environmental Policy Act (NEPA) does not apply. However, should the project involve federal funding, the following NEPA document and supporting studies may be required. Caltrans has official NEPA Assignment that gives them authority and responsibility for complying with all federal environmental laws including NEPA.

NEPA Categorical Exclusion

Categorical Exclusions (CEs) are used for projects that are determined to not have significant individual or cumulative effects on the environment. Projects that proceed with a CE must still comply with all permitting and consultation requirements. Additionally, the CE must be substantiated with documentation to the level appropriate to the type of project and potential for substantial adverse environmental impacts. The following supporting studies, in addition to the surveys and studies identified in Section 12.1 and 12.2 of this memorandum, may be required:

1. **Preliminary Environmental Study (PES)**

   The PES provides brief, initial environmental evaluation of a project, and identifies additional studies warranted (if any). The PES is prepared in coordination with Caltrans for local assistance projects. Once finalized, the PES becomes a kind of workplan for the environmental documentation required to substantiate the project's NEPA document.

2. **Visual Impact Assessment (VIA)**

   Caltrans maintains a questionnaire to determine the VIA level warranted for a particular project. The level of documentation ranges from checking 'no' on the Question #22 in Section A of the

PES form, to preparation of an Advanced/Complex VIA. Based on preliminary review of the project area and project type, it is likely that the project may be required to prepare a brief Technical Memo to assess or explain the project's potential impacts to visual or scenic resources

3. **Natural Environment Study (NES)**

   A NES describes the existing biological environment and how the project and project alternatives may affect that environment. The NES covers plants, animals, and natural communities occurring in the project's biological study area. The NES summarizes technical reports prepared for the project, including wetland assessments, protocol surveys, and Biological Assessments.

4. **Biological Assessment (BA)**

   If it is indicated that a project may adversely affected a listed species or critical habitat, then a BA is prepared.

5. **Transportation Conformity Evaluation**

   Transportation Conformity is a process set up under the Clean Air Act to ensure that transportation planning, transportation improvement programs, and projects are consistent with the plans to achieve and maintain National Ambient Air Quality Standards (NAAQS). Transportation Conformity only applies to projects located in areas designated as nonattainment or maintenance areas for any NAAQS, and applies to projects within Amador County for the 2015 ozone standard.

12.3 Hazardous Waste

Follow all required and necessary procedures to protect workers from heavy metal contamination during construction. Due to the presence of arsenic and other potential contaminants in the water tailings all surface runoff will be required to be routed away from the tailings.

12.4 Anticipated Mitigation Requirements

As identified in Section 5.5 of this memorandum, the following mitigation is likely warranted. Details of the mitigation would be tailored to the project and based on further environmental study. However, example details are provided below. As shown below, some mitigation details include conducting surveys.

Wetlands and Jurisdictional Waters Mitigation

The City shall clearly identify wetland areas to be preserved within and abutting the project footprint with high-visibility construction fencing or markers (e.g., lathe or pin flags) before site preparation. Construction will not encroach upon jurisdictional wetlands as defined in the Delineation of Waters of the United States (ICF 2019). No construction activity, traffic, equipment, or materials will be permitted in fenced wetland areas. The fencing will be maintained throughout the construction period. Exclusion fencing and markers will be removed following the completion of construction activities.

All conditions imposed by the project's state and federal permits will be implemented as part of the project construction. The conditions will be clearly identified in the construction plans and specifications and monitored during and after construction to ensure compliance.

Permanent loss of jurisdictional aquatic features shall be mitigated through a mitigation banking option, or an on-site restoration/enhancement mitigation plan. On-site restoration opportunities exist adjacent to (location). If an on-site restoration/enhancement mitigation plan is developed, the plan will identify the type and quantity of impacted aquatic resources and a strategy for preservation, enhancement, or re-establishment/restoration of mitigation features suitable for the setting. The plan also will identify monitoring methods and success criteria for the proposed mitigation. Enhancement and restoration activities will be located as near to the impact location as possible; however, in the event that local mitigation opportunities are not available, such activities could occur elsewhere within Amador County. Mitigation ratio for mitigation identified within the County will be 1:1, and would increase the further from the Project site that mitigation was identified or as negotiated with jurisdictional resource agencies.

Tree Replacement

A minimum of 3:1 replacement ratio shall apply upon removal of any such tree having a diameter greater than sixteen inches at four and one-half feet from grade. Oak trees removed shall be replaced with like species. Trees planted as replacements shall be maintained for five years, and again replaced and maintained if they fail to survive within that period.

Nesting Bird Mitigation

The City shall implement the following procedures to protect nesting birds.

- If feasible, remove the trees and vegetation between September and January, to avoid the bird nesting season.
- Prior to any construction activities scheduled during the bird nesting season (February 1 to August 31), the project proponent will retain a qualified wildlife biologist with demonstrated nest-searching experience to conduct preconstruction surveys for nesting birds, including white-tailed kite and other raptors. The survey will occur no more than seven days prior to the initiation of demolition and ground-disturbing activities.
- If active nests are found during the survey, the biologist will establish exclusion zones around each nest in which no work will be allowed until he/she has determined that the young have fledged or the nest is no longer active. The size of the exclusion zone(s) will be based on the species' sensitivity to disturbance and planned work activities in the vicinity; typical buffer sizes are 300 feet for raptors and 50 feet for other birds.
    - If a lapse in project-related activities of 15 days or longer occurs, another preconstruction survey will be conducted.
    - After all nest surveys and monitoring are completed, the biologist will prepare a memorandum summarizing the survey effort and results and submit to the lead agency within seven days of survey completion.

Nesting Bat Mitigation

Bat roost surveys shall be conducted during the spring or summer prior to construction in any areas where potential maternity roosts may be disturbed/removed. Surveys shall be conducted by a qualified biologist. Surveys shall include a visual inspection of the impact area and any large trees with cavities or loose bark. If the presence of a bat maternity colony or roost is confirmed, no activity generating noise greater than 90 dB shall occur within a maximum of 300 feet of the roost or within a distance to be determined in consultation with CDFW from April 1 through August 15 or until young have dispersed. If Project work will take place between August 16 and March 31, no surveys shall be required because there will be no impact to roosting bats, as this period is outside of the maternity season.

Construction-period Fugitive Dust Mitigation

The contractor shall implement the following BMPs during construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, active graded areas, excavations, and unpaved access roads) shall be watered two times per day in areas of active construction.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph, unless the unpaved road surface has been treated for dust suppression with water, rock, wood chip mulch, or other dust prevention measures.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Amador Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Undiscovered Archeological Resources

In the event that any subsurface archaeological features or deposits, including locally darkened soil, are discovered during construction-related earth-moving activities, all ground-disturbing activity within 50 feet of the resource shall be halted, a District Inspector notified immediately, a qualified professional

archaeologist retained to evaluate the find, and the appropriate tribal representative(s) notified. If the find qualifies as a historical resource or unique archaeological resource as defined by CEQA, the archaeologist shall develop appropriate measures to protect the integrity of the resource and ensure that no additional resources are affected. Mitigation could include but would not necessarily be limited to avoidance, preservation in place, archival research, subsurface testing, or excavation and data recovery.

13. References

The following references were used to make the above recommendations:

CNDDB, California Natural Diversity Database, Biogeographic Data Branch (BDB), California Department of Fish and Wildlife (CDFW). 2020. *Rarefind 5 Version 5.2.14/Bios.* Edited by the California Natural Diversity Database (CNDDB). Biogeographic Data Branch (BDB). May. Accessed October 2019. https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

CNPS, California Native Plant Society. 2020. *Inventory of Rare and Endangered Plants of California (online edition).* Edited by Rare Plant Program. Vers. v8-03 0.39. Accessed March 2020. http://www.rareplants.cnps.org.

NRCS, Natural Resources Conservation Service. 2020. *Web Soil Survey.* May. Accessed January 2020. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

NWI, National Wetlands Inventory. 2020. *National Wetlands Inventory mapper.* May. Accessed January 2020. https://www.fws.gov/wetlands/data/Mapper.html.

USFWS, U.S. Fish and Wildlife Service. 2020. *IPaC Information for Planning and Consultation.* Edited by Environmental Conservation Online System (ECOS). U.S. Fish and Wildlife Service (USFWS). Accessed May 2020. https://ecos.fws.gov/ipac/;jsessionid=E3B2A4FD399AE1DD6D35A44D63991E7C.

Attachment A | Preliminary Cost Estimates

ALT 1 - STOP CONTROLLED (ESTIMATE)

CONSTRUCTION MATERIALS	QUANTITY	UNITS	COST	UNITS	TOTAL
CONSTRUCTION STAGING/ TRAFFIC CONTROL	1	LS	$10,000	LS	$10,000
ROADWORK (NEW ROADWAY)	55,900	SF	$23	SF	$1,285,700
ROADWORK (UPGRADE EXISITNG)	76,100	SF	$20	SF	$1,522,000
ROADWAY EXCAVATION	3,350	CY	$80	SF	$268,000
SIDEWALK	14,800	SF	$15	SF	$222,000
CURB AND GUTTER	5,400	LF	$45	LF	$243,000
RETAINING WALLS	1,300	LF	$150	LF	$195,000
LIGHTING[1]	1	LS	$96,000	LS	$96,000
DRAINAGE[2]	1	LS	$500,000	LS	$500,000
UTILITIES	1	LS	$20,000	LS	$20,000
EARTHWORK	1	LS	$100,000	LS	$100,000
LANDSCAPE/ EROISON CONTROL	1	LS	$10,000	LS	$10,000
HYDROSEED	15,050	SQFT	$0.20	SQFT	$3,010
MINOR ITEMS (10%)	1	LS	$446,170	LS	$446,170
MOBILIZATION (5%)	1	LS	$246,044	LS	$246,044
SUBTOTAL CONSTRUCTION					$5,156,924
ENVIRONMENTAL/ PRELIMINARY ENGINEERING	10%				$515,692
DESIGN	15%				$773,539
ENVIRONMENTAL MITIGATION	TBD				TBD
CONSTRUCTION SUPPORT	10%				$515,692
CONTIGENCY	30%				$1,547,077
TOTAL DESIGN AND SUPPORT COSTS					$8,508,925

1. This line item assume 8 lights at $12,000 each

2. This line item assumes an inlet every 250ft of roadway and installation of 24in pipe.

ALT 2 - STOP CONTROLLED FULL STANDARD (ESTIMATE)

CONSTRUCTION MATERIALS	QUANTITY	UNITS	COST	UNITS	TOTAL
CONSTRUCTION STAGING/ TRAFFIC CONTROL	1	LS	$10,000	LS	$10,000
ROADWORK (NEW ROADWAY)	66,600	SF	$25	SF	$1,665,000
ROADWORK (UPGRADE EXISITNG)	72,200	SF	$20	SF	$1,444,000
ROADWAY EXCAVATION	4,450	SF	$80	SF	$356,000
SIDEWALK	15,800	SF	$15	SF	$237,000
CURB AND GUTTER	5,700	LF	$45	LF	$256,500
RETAINING WALLS	600	LF	$150	LF	$90,000
LIGHTING[1]	1	LS	$96,000	LS	$96,000
DRAINAGE[2]	1	LS	$500,000	LS	$500,000
UTILITIES	1	LS	$20,000	LS	$20,000
EARTHWORK	1	LS	$100,000	LS	$100,000
LANDSCAPE/ EROISON CONTROL	1	LS	$10,000	LS	$10,000
HYDROSEED	20,000	SQFT	$0.20	SQFT	$4,000
MINOR ITEMS (10%)	1	LS	$478,450	LS	$478,450
MOBILIZATION (5%)	1	LS	$263,348	LS	$263,348
				SUBTOTAL CONSTRUCTION	$5,520,298
ENVIRONMENTAL/ PRELIMINARY ENGINEERING			10%		$552,030
DESIGN			15%		$828,045
ENVIRONMENTAL MITIGATION			TBD		TBD
CONSTRUCTION SUPPORT			10%		$552,030
CONTIGENCY			30%		$1,656,089
				TOTAL DESIGN AND SUPPORT COSTS	$9,108,491

1. This line item assume 8 lights at $12,000 each

2. This line item assumes an inlet every 250ft of roadway and installation of 24in pipe.

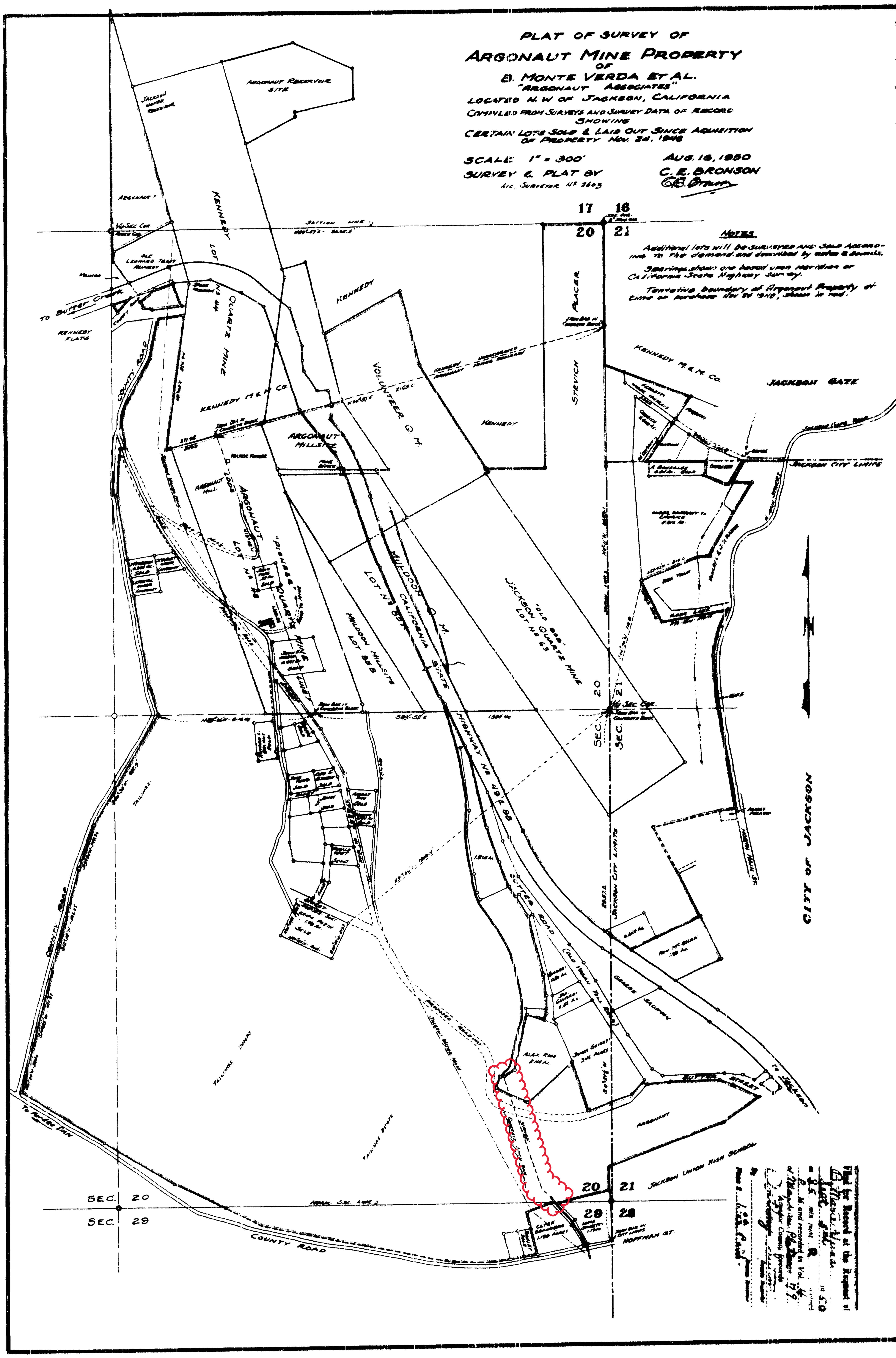
ALT 3 - ROUNDABOUT CONTROLLED (ESTIMATE)

CONSTRUCTION MATERIALS	QUANTITY	UNITS	COST	UNITS	TOTAL
CONSTRUCTION STAGING/ TRAFFIC CONTROL	1	LS	$10,000	LS	$10,000
ROADWORK (NEW ROADWAY)	58,200	SF	$25	SF	$1,455,000
ROADWORK (UPGRADE EXISITNG)	91,800	SF	$20	SF	$1,836,000
ROADWAY EXCAVATION	1,600	SF	$80	SF	$128,000
SIDEWALK	27,200	SF	$15	SF	$408,000
CURB AND GUTTER	1,100	LF	$45	LF	$49,500
RETAINING WALLS	600	LF	$150	LF	$90,000
LIGHTING[1]	1	LS	$96,000	LS	$96,000
DRAINAGE[2]	1	LS	$500,000	LS	$500,000
UTILITIES	1	LS	$20,000	LS	$20,000
EARTHWORK	1	LS	$100,000	LS	$100,000
LANDSCAPE/ EROISON CONTROL	1	LS	$25,000	LS	$25,000
HYDROSEED	7,150	SQFT	$0.20	SQFT	$1,430
MINOR ITEMS (10%)	1	LS	$469,250	LS	$469,250
MOBILIZATION (5%)	1	LS	$259,409	LS	$259,409
				SUBTOTAL CONSTRUCTION	$5,447,589
ENVIRONMENTAL/ PRELIMINARY ENGINEERING			10%		$544,759
DESIGN			15%		$817,138
ENVIRONMENTAL MITIGATION			TBD		TBD
CONSTRUCTION SUPPORT			10%		$544,759
CONTIGENCY			30%		$1,634,277
				TOTAL DESIGN AND SUPPORT COSTS	$8,988,522

1. This line item assume 8 lights at $12,000 each

2. This line item assumes an inlet every 250ft of roadway and installation of 24in pipe.

Attachment B | Right of Way Mapping

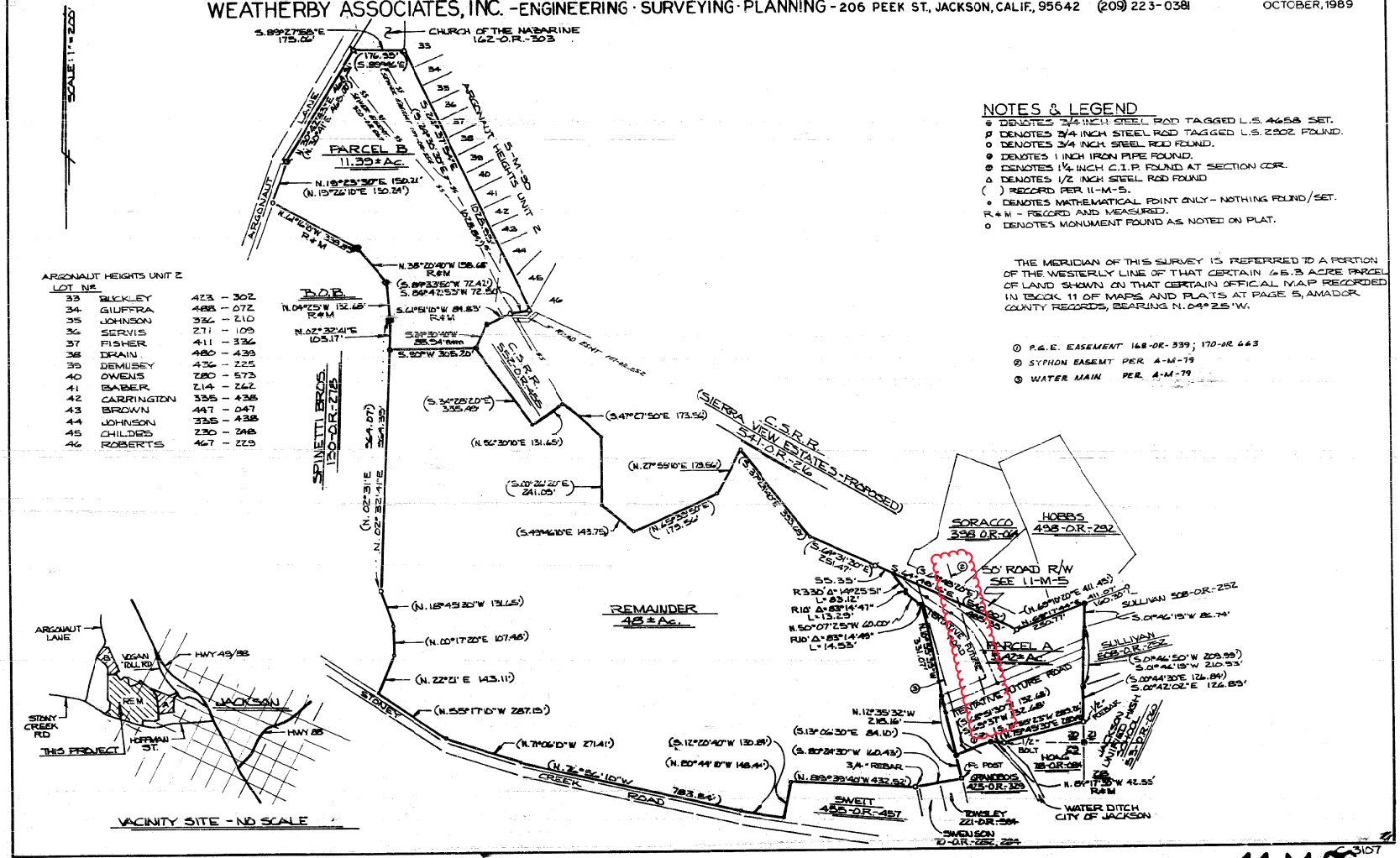

PLAT OF SURVEY OF
ARGONAUT MINE PROPERTY
OF
B. MONTE VERDA ET AL.
"ARGONAUT ASSOCIATES"
LOCATED N.W OF JACKSON, CALIFORNIA
COMPILED FROM SURVEYS AND SURVEY DATA OF RECORD
SHOWING
CERTAIN LOTS SOLD & LAID OUT SINCE ACQUISITION
OF PROPERTY NOV. 24, 1948
SCALE 1" = 300'
SURVEY & PLAT BY
LIC. SURVEYOR Nº 2603
AUG. 16, 1950
C. E. BRONSON
NOTES
Additional lots will be surveyed and sold according to the demand and described by metes & bounds.
Bearings shown are based upon Meridian of California State Highway Survey.
Tentative boundary of Argonaut Property at time of purchase Nov 24 1948, shown in red.
17
16
20
21
KENNEDY
KENNEDY M & M Co.
JACKSON GATE
STEVICH PLACER
VOLUNTEER G. M.
ARGONAUT QUARTZ MINE
CALIFORNIA STATE HIGHWAY No 49 & 88
JACKSON QUARTZ MINE
MULDOON HILLSITE
CITY OF JACKSON
SEC. 20
SEC. 21
SEC. 20
SEC. 29
29
28
COUNTY ROAD
SUTTER STREET
HOFFMAN ST
JACKSON UNION HIGH SCHOOL
JACKSON CITY LIMITS
ARGONAUT
TO SUTTER CREEK
KENNEDY FLATS

79

PARCEL MAP No 2306 for MORSE F. VAN HORN

BEING A PORTION OF SECTIONS 20, 21 & 29, T. 6 N., R. 11 E., M.D.M. & WITHIN THE JACKSON CITY LIMITS, AMADOR COUNTY, CALIF.

WEATHERBY ASSOCIATES, INC. - ENGINEERING · SURVEYING · PLANNING - 206 PEEK ST., JACKSON, CALIF., 95642 (209) 223-0381 OCTOBER, 1989



LOT	NR.		
33	BUCKLEY	423 - 302	
34	GIUFFRA	488 - 072	
35	JOHNSON	336 - 210	
36	SERVIS	271 - 109	
37	FISHER	411 - 336	
38	DRAIN	480 - 439	
39	DEMUSEY	436 - 225	
40	OWENS	780 - 573	
41	BABER	214 - 262	
42	CARRINGTON	335 - 438	
43	BROWN	447 - 047	
44	JOHNSON	335 - 438	
45	CHILDES	230 - 248	
46	ROBERTS	467 - 229	

NOTES & LEGEND

- ● DENOTES 3/4 INCH STEEL ROD TAGGED L.S. 4458 SET.
- ⊙ DENOTES 3/4 INCH STEEL ROD TAGGED L.S. 2302 FOUND.
- o DENOTES 3/4 INCH STEEL ROD FOUND.
- ● DENOTES 1 INCH IRON PIPE FOUND.
- ⊕ DENOTES 1¼ INCH C.I.P. FOUND AT SECTION COR.
- △ DENOTES 1/2 INCH STEEL ROD FOUND
- ( ) RECORD PER 11-M-5.
- • DENOTES MATHEMATICAL POINT ONLY - NOTHING FOUND/SET.
- R&M - RECORD AND MEASURED.
- o DENOTES MONUMENT FOUND AS NOTED ON PLAT.

THE MERIDIAN OF THIS SURVEY IS REFERRED TO A PORTION OF THE WESTERLY LINE OF THAT CERTAIN 46.3 ACRE PARCEL OF LAND SHOWN ON THAT CERTAIN OFFICIAL MAP RECORDED IN BOOK 11 OF MAPS AND PLATS AT PAGE 5, AMADOR COUNTY RECORDS, BEARING N. 04° 25' W.

① P.G.E. EASEMENT 168-OR-339; 170-OR 443
② SYPHON EASEMT PER 4-M-79
③ WATER MAIN PER 4-M-79

44-M-26