

AMENDMENT NO. 6 TO
NAPA COUNTY AGREEMENT NO. 240200B
PROFESSIONAL SERVICES AGREEMENT

THIS AMENDMENT NO. 6 TO AGREEMENT NO. 240200B (Amendment No. 6) is made and entered into as of this 18th day of November, 2025, by and between NAPA COUNTY, a political subdivision of the State of California (COUNTY) and Kimley-Horn and Associates, Inc., a North Carolina Corporation whose business address is 2121 S. El Camino Real, Suite 550, San Mateo, CA 94430, hereinafter referred to as “CONTRACTOR.” COUNTY and CONTRACTOR are collectively referred to in this Amendment No. 6 as “Parties.”

RECITALS

WHEREAS, COUNTY and CONTRACTOR entered into Agreement No. 240200B (Agreement) on November 7, 2023, for CONTRACTOR to prepare environmental and bid documents, assist with right-of-way acquisition, and provide other professional services related to a segment between Yountville and St. Helena of the Napa Valley Vine Trail (Vine Trail), a cycling and pedestrian pathway; and

WHEREAS, the services to be provided by CONTRACTOR are divided into twelve tasks, only the first seven of which (Task Nos. 1-7) are funded and authorized by COUNTY to commence; and

WHEREAS, the Parties amended the Agreement on December 28, 2023, to allow CONTRACTOR to prepare plat maps, for use in discussions with property owners about obtaining access for the Vine Trail, work which is currently included in Task No. 9; and

WHEREAS, the Parties amended the Agreement on April 9, 2024, to allow CONTRACTOR to support preparing a Safe Streets and Roads for All grant application, collect bicycle and pedestrian counts for grant applications, value engineer the cost estimate, perform additional utility mapping, and prepare alternatives exhibits for use in discussions with property owners along the Vine Trail; and

WHEREAS, the Parties amended the Agreement on May 24, 2024, with a budget increase of \$178,111.68 to allow CONTRACTOR to support preparing an environmental impact report (EIR) for the Project instead of the mitigated negative declaration (MND) in the Agreement; and

WHEREAS, the Parties amended the Agreement on September 10, 2024, to allow CONTRACTOR to support preparation of an Active Transportation Infrastructure Investment Program (ATIIP) grant application, perform additional traffic data collection and property boundary work, participate in stakeholder meetings, expand the Natural Environment Study and wetland survey for an alternative alignment, revise the Area of Potential Effect Map to comply

with new Caltrans requirements, design additional railroad crossings, and prepare the 65% plans, specifications and estimate (Task 10); and

WHEREAS, the Parties amended the Agreement on May 20, 2025, to allow CONTRACTOR move part of the budget for the 65% plans, specifications and estimate (Task 10) to complete additional engineering and environmental studies, and change the NEPA document from a Categorical Exclusion (CE) to an Environmental Assessment (EA) to include Alternative Alignment 4 (mostly Tasks 4, 5 and 6); and

WHEREAS, the Parties desire to amend the Agreement to allow CONTRACTOR move the budget for the Final Environmental Document (Task 7) and the budgets for two subconsultants performing work across multiple tasks to the budgets for Data Collection (Task 2), Engineering Studies and Project Report (Task 4), and Environmental Studies and Draft Environmental Documents (Task 5) in support of design and environmental studies related to a scope change at the Bale Slough crossing; and

WHEREAS, this amendment will not increase the Maximum Amount of the Agreement or extend the Agreement's term; and

WHEREAS, COUNTY and CONTRACTOR now wish to amend the Agreement to update the scope of work and move the compensation rates between tasks.

TERMS

NOW, THEREFORE, for good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties hereby amend Agreement No. 240200B as follows:

1. Paragraph 2 "Scope of Work" is hereby amended to read in full as follows:

Scope of Work. CONTRACTOR shall provide COUNTY those services set forth in Exhibit "A," Exhibit "A-1," Exhibit "A-2," Exhibit "A-3," Exhibit "A-4" and Exhibit "A-5" attached hereto, in accordance with the RFP and CONTRACTOR's proposal, incorporated by reference herein. Because the funds necessary to complete the project have not been secured, the Scope of Services for this Agreement currently consists only of Tasks 1 through 6 as set forth in CONTRACTOR's proposal, excluding any optional tasks, preparation of the plat maps described in Task 9, preparation of an EIR, preparation of the 65% PS&E in Task 10, and additional grant support in Task 12. COUNTY and CONTRACTOR intend to amend this Agreement to add the remaining tasks as funding for the services becomes available. CONTRACTOR shall perform the services in accordance with the "schedule of work" set forth in CONTRACTOR's proposal, as adjusted by the dates COUNTY and CONTRACTOR amend the Agreement to add the remaining tasks in CONTRACTOR's proposal.

2. Paragraph 3 “Compensation” is hereby amended to read in full as follows:

Compensation.

(a) Rates. In consideration of CONTRACTOR’s fulfillment of the promised work, COUNTY shall pay CONTRACTOR at the hourly billing rates set forth in Exhibit “B,” Exhibit “B-1,” Exhibit “B-2,” Exhibit “B-3,” Exhibit “B-4” and Exhibit “B-5” attached hereto and incorporated by reference herein.

(b) Expenses. Travel and other expenses will be reimbursed by COUNTY upon submission of an invoice in accordance with Paragraph 4 at the rates and/or in accordance with the provisions set forth in Exhibit “B,” Exhibit “B-1,” Exhibit “B-2,” Exhibit “B-3,” Exhibit “B-4,” and Exhibit “B-5.”

(c) Maximum Amount. Notwithstanding subparagraphs (a) and (b), the maximum payments under this Agreement shall not exceed FOUR MILLION, ONE HUNDRED AND EIGHTY THOUSAND, SIX HUNDRED AND TWENTY-EIGHT DOLLARS AND FIFTY CENTS (\$4,180,628.50), consisting of FOUR MILLION, NINETY-ONE THOUSAND, NINE HUNDRED AND NINETY-THREE DOLLARS AND FIFTY-ONE CENTS (\$4,091,993.51) for Tasks 1 through 6, the plat maps described in Task 9, and the 65% design in Task 10, and EIGHTY-EIGHT THOUSAND, SIX HUNDRED AND THIRTY-FOUR DOLLARS AND NINETY-NINE CENTS (\$88,634.99) for expenses; provided, however, that such amounts shall not be construed as guaranteed sums, and compensation shall be based upon services actually rendered and reimbursable expenses actually incurred.

(d) Annual Appropriation of Funds. CONTRACTOR acknowledges that the term of this Agreement may extend over multiple County fiscal years, and that compensation under this Agreement is contingent on the Board of Supervisors appropriating funding for this Agreement for those fiscal years. This Agreement may be terminated at the end of the fiscal year for which sufficient funding is not appropriated and authorized. COUNTY is not obligated to pay CONTRACTOR, nor is CONTRACTOR obligated to provide further services, if sufficient funds have not been appropriated and authorized by the Board of Supervisors.

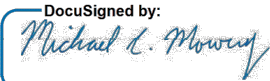
3. This Amendment No. 6 represents all the changes to the Agreement agreed to by the parties. No other enforceable oral representations or other agreements have been made by the parties except as specifically stated herein. All other provisions of the Agreement not addressed in this Amendment No. 6 shall remain in full force and effect.

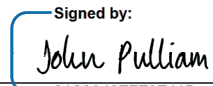
4. This Amendment No. 6 may be executed in counterparts, which when taken together, shall constitute a single signed original as though all parties had executed the same page.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

IN WITNESS WHEREOF, the parties hereto have executed this Amendment No. 6 to Napa County Agreement 240200B as of the date written on the first page of this Amendment.

KIMLEY-HORN AND ASSOCIATES, INC.

DocuSigned by:

By: C8A5B0C74CC84AA...
MIKE MOWERY
Sr. Vice President

Signed by:

By: 21C0A49EFE2E415
JOHN PULLIAM, Assistant Secretary

NAPA COUNTY, a political subdivision of the State of California

By: _____
ANNE COTTRELL, Chair
Board of Supervisors

APPROVED AS TO FORM Office of County Counsel By: <u>Ryan FitzGerald (e-sign)</u> Deputy County Counsel Date: <u>October 31, 2025</u>	APPROVED BY THE NAPA COUNTY BOARD OF SUPERVISORS Date: _____ Processed By: _____ Deputy Clerk of the Board	ATTEST: NEHA HOSKINS Clerk of the Board of Supervisors By: _____
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RDS 23-19 NVVT Y to SH RFP Scope of Services (Amendment 6)

EXHIBIT A-5

This amendment includes scope of services related to supporting the change in approach to crossing Bale Slough and additional traffic analysis requested by the County.

The previous alignment included a stand-alone bridge to the west of the existing Bale Slough triple box culvert which carries SR 29 over Bale Slough. The revised approach consists of widening the existing triple box culvert to the east to allow the highway to be shifted east and provide room on the west end of the existing box culverts for the trail to cross Bale Slough.

The changes to existing tasks, and new tasks, are described below. This amendment does not represent or contain original scope of services as modified through the previous amendments.

This amendment will be funded by transferring funds from other tasks already approved and under contract. The scope of work associated with those unfunded or underfunded tasks will be modified or not performed until such time as additional funding is provided via a future amendment. The budget total for Amendment 6 is a transfer of \$126,776.94 from other tasks in the agreement and amendments.

Budget and scope changes to fund this amendment are as follows:

- Task 7 - Final Environmental Document: \$ 43,862.15 (entire Task 7 budget)
- Subconsultant ARWS: \$ 50,000
- Subconsultant VSCE: \$ 32,914.79

TASK 2 – DATA COLLECTION**TASK 2.3.2 – Additional Supplemental Surveys (Bale Slough)**

Our subconsultant RSA+ will survey the area shown below in blue, including identifying the location of the right-of-way. RSA+ will complete a topographic survey of the area between SR 29 and the Caltrans right-of-way that was not previously surveyed, the driveway at 1750 State Highway 29 (APN 030-100-020) to 100 feet east of SR 29, the drainage ditch on the east side of SR 29 to 50 feet east of the drainage ditch, and 100 feet of Bale Slough downstream of SR 29.

RDS 23-19 NVVT Y to SH RFP Scope of Services (Amendment 6)



Task 2.3.2 Deliverables

- Updated base map with resolved right-of-way

RDS 23-19 NVVT Y to SH RFP Scope of Services (Amendment 6)

TASK 4 – ENGINEERING STUDIES AND PROJECT REPORT

TASK 4.1.2 – Additional Traffic Studies (6 Intersections and Alt 4)

Kimley-Horn will review and provide additional support to the Vine Trail Coalition team to address public comments at six (6) additional intersections as follows:

Study Intersections:

1. SR 29/Zinfandel Lane
2. SR 29, Rutherford Road
3. SR 29/Oakville Cross Road
4. SR 29/Oakville Grade Road
5. SR 29/Dwyer Road
6. SR 29/Madison Street

Kimley-Horn will prepare a separate memo summarizing intersection LOS, delay and queue length for Weekday AM/PM and weekend results from our previous analysis. We will review and summarize the Vision Zero information that the Coalition provided to us to identify these intersections' deficiencies. We will propose qualitative discussion to address public concerns and address circulation for vehicles, bikes, and pedestrians.

Our scope includes a meeting to discuss the existing and project opening year conditions and share the findings with the Coalition and the County.

Based on input received from the draft, we will prepare and submit a final memo.

In addition, Kimley-Horn will draft a traffic memo for submittal to Caltrans that discusses the challenges with the trail crossing of SR 29 at the north end of Alternative 4. The memo will include a qualitative discussion of the safety and operational challenges of this SR 29 crossing.

We will submit the draft memo for review by the County, and we assume one round of revisions prior to submittal of the memo to Caltrans.

Task 4.2.1 Deliverables

- Draft and final traffic memo (6 intersections)
- Draft and final memo for Alternative 4 crossing

TASK 4.3.15 – Hydrology and Hydraulic Analysis (Bale Slough)

Based on the preliminary Vine Trail modified Bale Slough crossing design (which spans from north of Rutherford Road at station 327+00± to station 350+50±), RSA⁺ will prepare a hydrology and hydraulics study to determine the approximate pre-project roadside ditch receiving stormwater flow and capacity, which will be used as the basis for the design of the ditch modifications. These studies will be incorporated into a preliminary drainage report. RSA⁺ will also determine the stormwater catchment area for the ditch and provide potential ditch geometry and sections for Kimley Horn's consideration. RSA⁺ will also coordinate and work with River Focus, the hydrology consultant who will be performing the flood modeling for Bale Slough.

Our subconsultant River Focus will perform a hydraulic modeling and flood & sediment impact assessment to support this task. The purpose of this study is to evaluate the hydraulic impacts of the

RDS 23-19 NVVT Y to SH RFP Scope of Services (Amendment 6)

proposed Vine Trail crossing of Bale Slough near the Bear Creek confluence. The study will use two-dimensional SRH-2D modeling to assess existing and proposed conditions, including water surface elevations, flood depths, velocities, shear stresses, and potential for upstream aggradation. Findings will guide design refinements to prevent adverse impacts to flooding or sediment transport.

Bale Slough crosses beneath State Highway 29 in Napa County near its confluence with Bear Creek and resulting downstream to the Napa River. The slough originates in the western hills near Bear Canyon and flows eastward across the valley floor. Based on the Zone “A” designation for Bale Slough, FEMA has not studied this watercourse in detail, and no peak flows or hydrographs are available in the FEMA Flood Insurance Study. The Napa County Flood Control & Water Conservation District has been implementing the Bale Slough–Bear Creek Restoration Project, with the proposed Vine Trail Bridge located immediately downstream of Segment C of the restoration project. At the Highway 29 crossing, Bale Slough is conveyed through culverts beneath the roadway, with a parallel railroad bridge located immediately upstream. The Vine Trail crossing is planned between the railroad and highway bridges, with the current proposed option involving extension of the highway culverts in the downstream / northeast direction.

River Focus’s work will include:

Data Collection and Review

River Focus will obtain and review the best available topographic data, aerial photography, Napa County Flood Control & Water Conservation District restoration project documentation, and Vine Trail project design plans.

A site reconnaissance will be conducted to document channel and floodplain geometry, estimate hydraulic roughness, confirm culvert configurations, and identify any evidence of sediment deposition, aggradation, or bank erosion.

Hydrologic Analysis/Modeling

River Focus will develop a two-dimensional (2-D) hydraulic model using SRH-2D within the SMS interface. The model domain will include Bale Slough near the Bear Creek confluence, the proposed Vine Trail crossing, and the adjacent highway and railroad bridges.

The model will be based on available LiDAR, survey data, and prior 1-D HEC-RAS model geometry and results. Simulations will be performed for existing conditions and for the proposed culvert extension.

The model will compute water surface elevations, flood depths, flow velocities, and shear stresses. Proposed-condition scenarios will be analyzed to evaluate design modifications if adverse impacts are identified.

Up to 3 model iterations/revisions for proposed conditions will be included. A detailed model QC review will also be performed, and model comments will be addressed.

RDS 23-19 NVVT Y to SH RFP Scope of Services (Amendment 6)

Sediment Transport / Aggradation Assessment

A full scour analysis is not anticipated given the scope of a culvert extension; however, River Focus will evaluate whether the proposed project increases aggradation or otherwise impacts sediment conditions upstream of the culvert. The assessment will use SRH-2D model results (flow distribution, velocity, and shear stress) to qualitatively assess deposition potential, supported by engineering judgment and reference to available restoration project documents. Findings will focus on whether the proposed culvert extension may cause upstream aggradation significant enough to affect channel performance or require design modifications.

Our scope assumes:

- No sediment sampling, full scour analysis, or sediment transport modeling will be performed.
- Aggradation will be assessed qualitatively using velocity and shear stress outputs.

Study Report

River Focus will prepare a draft Hydraulic Study Report describing model setup, assumptions, parameters, and results. The report will document whether the proposed crossing is expected to increase upstream flooding or aggradation potential and will identify alternatives if impacts occur. Comments from Napa County and other reviewers will be addressed, and a final report will be prepared.

Deliverables:

- Draft Hydraulic Study Report
- Final Hydraulic Study Report

Our scope assumes:

- The report will be submitted digitally (no hard copies are anticipated).
- Survey or LiDAR data will be provided by others.
- River Focus will evaluate riverine flooding only (not local storm drainage).

Project Meetings and Coordination

River Focus will coordinate closely with Kimley-Horn and RSA+ during this study and will answer questions for Napa County when requested. River Focus personnel will participate in Teams and/or Zoom meetings, as needed.

TASK 5 - ENVIRONMENTAL STUDIES AND DRAFT ENVIRONMENTAL DOCUMENTS

TASK 5.2.3.1 – Natural Environment Study Revisions (Bale Slough)

Our subconsultant LSA will review the updated ADI boundary for the Bale Slough design change and update the Natural Environmental Study (NES) and Jurisdictional Delineation accordingly. The updated NES will include the revised BSA mapping/figures and the revised jurisdictional delineation along Bale Slough (including the tributary drainage channel that flows parallel to the northeast side of SR 29). This cost estimate assumes that no additional changes to the ADI or project design will occur.



CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

October 27, 2025

Taylor Blanford, AICP
Kimley-Horn
1300 Clay Street, Suite 900
Oakland, California 94612

Subject: Contract Amendment for the Bale Slough Change
Napa Valley Vine Trail Yountville through St. Helena Project, Napa County

Dear Ms. Blanford:

Per the request from Napa County, LSA is pleased to submit this contract amendment to include the Bale Slough Change in the Natural Environment Study (NES) and Jurisdictional Delineation (JD) prepared for the above-referenced project. This proposal is based on our e-mail and telephone correspondence with you and the project information you sent to us on August 1, 2025, as well as LSA's familiarity with the project site and experience at preparing NES and JD documents.

SCOPE OF WORK

LSA will review the updated Area of Direct Impact (ADI) boundary (provided on August 1, 2025) for the Bale Slough change and update the NES and JD accordingly. The updated NES will include the revised Biological Study Area (BSA) mapping/figures and the revised JD along Bale Slough (including the tributary drainage channel that flows parallel to the northeast side of State Route 29).

ASSUMPTIONS

This contract amendment assumes that no additional changes to the ADI or project design will occur.

BUDGET

LSA will conduct this work on a time plus expenses basis for an amount not to exceed \$21,150 for the above-mentioned tasks. Additional services, if required, will be provided upon your request on a time plus expenses basis. If these terms are acceptable, you may authorize this work by providing your own form of authorization.

Please contact me at 510-376-5704 or at dan.sidle@lsa.net or Ross A. Dobberteen, Ph.D., Principal-in-Charge at ross.dobberteen@lsa.net or at 510-236-6810 if you have any questions or require additional information.

Sincerely,

LSA Associates, Inc.

A handwritten signature in blue ink, appearing to read 'Dan Sidle'.

Dan Sidle
Associate/Senior Biologist

A handwritten signature in blue ink, appearing to read 'Ross A. Dobberteen'.

Ross A. Dobberteen, Ph.D.
Principal

#4125470.1 – 09

October 2, 2025

Kimley Horn and Associates, Inc.
Attn: Michael Mowery
2121 S. El Camino Real, Suite 550
San Mateo, CA 94403

c/o: John Pulliam and Emily Mohnney
John.Pulliam@kimley-horn.com
Emily.Mohnney@kimley-horn.com

RE: Vine Trail Yountville to St. Helena
Addendum #3 (#4123047.0)

Dear Michael:

The purpose of this letter is to provide a revised third addendum to our original Agreement dated November 13, 2023. The amended scope of services and associated fees are as follows:

A. Consultant agrees to perform the following additional scope of services:

2.5 **Supplemental Topographic Survey and Boundary.** RSA⁺ is proposing to survey the area shown on the attached exhibit including identifying the location of the right-of-way. RSA⁺ will complete a topographic survey of the area between SR 29 and the Caltrans right-of-way that was not previously surveyed, the driveway at 1750 State Highway 29 (APN 030-100-020) to 100 feet east of SR 29, the drainage ditch on the east side of SR 29 to 50 feet east of the drainage ditch, and 100 feet of Bale Slough downstream of SR 29.

4.3 **Engineering Studies.** Based on the preliminary Vine Trail modified Bale Slough crossing design (which spans from north of Rutherford Road at station 327+00± to station 350+50±) prepared by Kimley Horn, RSA⁺ will prepare a hydrology and hydraulics study to determine the approximate pre-project roadside ditch receiving stormwater flow and capacity, which will be used as the basis for the design of the ditch modifications. These studies will be incorporated into a preliminary drainage report. RSA⁺ will also determine the stormwater catchment area for the ditch and provide potential ditch geometry and sections for Kimley Horn's consideration. RSA⁺ will also coordinate and work with River Focus, the hydrology consultant who will be performing the flood modeling for Bale Slough.

Our budget allows for completion of this work over a period of six (6) weeks following after the supplemental topography has been collected and assumes no significant changes to the alignment. The budget also allows for two (2) design coordination meetings with Caltrans to review the project design and it assumes only one (1) round of comments.

B. Not included in this scope of services:

1. Grading design or plans.

- 2. Topographic Survey except as specifically detailed in Task 2.5. Contours if shown outside this area, will be per Napa County GIS and should be considered approximate and not be used as a basis for design.
- 3. Boundary Survey. Property Lines are per Napa County GIS and should not be used for property owner negotiations.
- 4. Utility Locates and obtaining markings by topographic survey.
- 5. Structural design of any and all bridge structures, drainage features, barriers, and retaining walls.
- 6. Drainage design for any and all drainage crossings.
- 7. Coordination with agencies outside of the Vine Trail, Napa County, City of St. Helena, and Town of Yountville.
- 8. River or stream bank improvements.
- 9. Floodway Mitigation Evaluation. It is assumed that the improvements will not encroach into any mapped FEMA floodway.
- 10. Joint trench, electric, gas, CATV, or telephone design.

Amended Fee

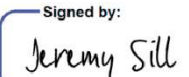
We will provide these services on a “Time and Materials” (T&M) fee basis as follows:

Task 2.5.....Supplemental Topographic Survey & Boundary.....	(T&M)...	\$65,000 Original Fee
		<u>\$15,000* Add'l Fee</u>
		\$80,000* Total Fee
Task 4.3.....Engineering Studies.....	(T&M)...	\$39,608.41 Original Fee
		<u>\$15,000* Add'l Fee</u>
		\$54,608.41* Total Fee

* Estimate of fee for this task. Actual fee will be based on required effort to complete task.
Please sign in the space provided below to indicate your concurrence with this third addendum to our original Agreement. Please feel free to call should you have any questions.

Sincerely,

Agreed: Kimley Horn and Associates, Inc.

Signed by:

8183A377D2FF446...

Jeremy Sill, PE
Associate Principal
RCE 73257

by: Michael Mowery

Date

MY/bs
#4125470.1 – 09



Scope of Work

Vine Trail at Bale Slough, Napa County, CA

Hydraulic Modeling and Flood & Sediment Impact Assessment



This scope of work was prepared by River Focus, Inc., at the request of Kimley-Horn and RSA+ for the County of Napa. The purpose of this study is to evaluate the hydraulic impacts of the proposed Vine Trail crossing of Bale Slough near the Bear Creek confluence. The study will use two-dimensional SRH-2D modeling to assess existing and proposed conditions, including water surface elevations, flood depths, velocities, shear stresses, and potential for upstream aggradation. Findings will guide design refinements to prevent adverse impacts to flooding or sediment transport.



Figure 1. Aerial view of project location at Bale Slough crossing under State Highway 29, Napa County, California. Bale Slough flows west to east, draining from Bear Canyon toward the Napa River. (Source: Google Earth, 2025)

Bale Slough crosses beneath State Highway 29 in Napa County near its confluence with Bear Creek and resulting downstream to the Napa River. The slough originates in the western hills near Bear Canyon and flows eastward across the valley floor. Based on the Zone “A” designation for Bale Slough, FEMA has not studied this watercourse in detail, and no peak flows or hydrographs are available in the FEMA Flood Insurance Study. The Napa County Flood Control & Water Conservation District has been implementing the Bale Slough–Bear Creek Restoration Project, with the proposed Vine Trail Bridge located immediately downstream of Segment C of the restoration project. At the Highway 29 crossing, Bale Slough is conveyed through culverts beneath the roadway, with a parallel railroad bridge located immediately upstream. The Vine Trail crossing is planned between the railroad and highway bridges, with the current proposed option involving extension of the highway culverts in the upstream direction.

Task 1. Data Collection and Review

River Focus will obtain and review the best available topographic data, aerial photography, Napa County Flood Control & Water Conservation District restoration project documentation, and Vine Trail project design plans.

A site reconnaissance will be conducted to document channel and floodplain geometry, estimate hydraulic roughness, confirm culvert configurations, and identify any evidence of sediment deposition, aggradation, or bank erosion.

Task 2. Hydrologic Analysis/Modeling

River Focus will develop a two-dimensional (2-D) hydraulic model using SRH-2D within the SMS interface. The model domain will include Bale Slough near the Bear Creek confluence, the proposed Vine Trail crossing, and the adjacent highway and railroad bridges.

The model will be based on available LiDAR, survey data, and prior 1-D HEC-RAS model geometry and results. Simulations will be performed for existing conditions and for the proposed culvert extension.

The model will compute water surface elevations, flood depths, flow velocities, and shear stresses. Proposed-condition scenarios will be analyzed to evaluate design modifications if adverse impacts are identified.

Up to 3 model iterations/revisions for proposed conditions will be included. A detailed model QC review will also be performed, and model comments will be addressed.

Task 3. Sediment Transport / Aggradation Assessment

A full scour analysis is not anticipated given the scope of a culvert extension; however, River Focus will evaluate whether the proposed project increases aggradation or otherwise impacts sediment conditions upstream of the culvert. The assessment will use SRH-2D model results (flow distribution, velocity, and shear stress) to qualitatively assess deposition potential, supported by engineering judgment and reference to available restoration project documents. Findings will focus on whether the proposed culvert extension may cause upstream aggradation significant enough to affect channel performance or require design modifications.

Assumptions:

- No sediment sampling, full scour analysis, or sediment transport modeling will be performed.
- Aggradation will be assessed qualitatively using velocity and shear stress outputs.

Task 4. Study Report

River Focus will prepare a draft Hydraulic Study Report describing model setup, assumptions, parameters, and results. The report will document whether the proposed crossing is expected to increase upstream flooding or aggradation potential and will identify alternatives if impacts occur. Comments from Napa County and other reviewers will be addressed, and a final report will be prepared.

Deliverables:

- Draft Hydraulic Study Report
- Final Hydraulic Study Report

Assumptions:

- The report will be submitted digitally (no hard copies are anticipated).
- Survey or LiDAR data will be provided by others.
- River Focus will evaluate riverine flooding only (not local storm drainage).

Task 5. Project Meetings and Coordination

River Focus will coordinate closely with Kimley-Horn and RSA+ during this study and will answer questions for Napa County when requested. River Focus personnel will participate in MS Teams and/or Zoom meetings, as needed.

Project Schedule

The project schedule will be determined by Kimley-Horn and/or RSA+. River Focus will work closely with Kimley-Horn and RSA+ to meet all project deadlines.



TIME & MATERIALS (T&M) COST ESTIMATE
Vine Trail at Bale Slough, Napa County, CA
2-D Hydraulic Modeling and Flood & Sediment Impact Assessment

Task #	Task Name/Description	Labor Category					Hours	Labor Price
		Project Manager	Senior Hydraulic Modeler	Water Resources Engineer	Admin/ Clerical	Hourly Billing Rate		
		\$193.89	\$192.57	\$124.56	\$71.31			
1	Data Collection and Review							
(a)	Obtain/review topo, inspection reports; restoration project documents and design plans	1		2			3	\$ 443
(b)	Perform field reconnaissance visit		8	8			16	\$ 2,537
	Subtotal	1	8	10	0		19	\$ 2,980
2	Hydraulic Modeling (SRH-2D w/ SMS)							
(a)	Import and review geometry, boundary conditions, and flows from existing HEC-RAS model	2	4	16			22	\$ 3,151
(b)	Process DEM and survey/LIDAR; refine terrain for SRH-2D model domain	1		12			13	\$ 1,689
(c)	Develop 2-D mesh in SMS covering Bale Slough, Bear Creek confluence, and adjacent floodplain	1	2	8			11	\$ 1,576
(d)	Define inflow/outflow boundaries using hydrology from prior model and available data	2		6			8	\$ 1,135
(e)	Incorporate/build existing culverts and bridges into geometry	3	6	20			29	\$ 4,228
(f)	Run baseline (existing) and proposed (culvert extension) scenarios for design events and analyze	2	2	8			12	\$ 1,769
(g)	Perform model QC review; address comments and backcheck	1	4	4			9	\$ 1,462
	Subtotal	12	18	74	0		104	\$ 15,010
3	Sediment Transport/Aggradation Assessment							
(a)	Review available restoration project docs, sediment-related info to establish baseline channel conditions	2		8			10	\$ 1,384
(b)	Extract velocity and shear stress results from SRH-2D model scenarios (existing and proposed)	1		6			7	\$ 941
(c)	Evaluate changes in velocity and shear stress to assess aggradation/siltation potential	2		10			12	\$ 1,633
(d)	Identify/assess any upstream areas with increased risk of deposition under existing and proposed conditions	2		6				\$ 1,135
(e)	Review and summarize findings, perform QC review, and finalize results	2	2	8			12	\$ 1,769
	Subtotal	9	2	38	0		41	\$ 6,863
4	Study Report							
(a)	Prepare draft hydraulic report	4	6	32	2		44	\$ 6,060
(b)	Address comments and prepare final hydraulic report	3	2	16	1		22	\$ 3,031
	Subtotal	7	8	48	3		66	\$ 9,091
5	Project Meetings and Coordination							
(a)	Conference call preparation and participation (3 calls assumed)	3		3	3		9	\$ 1,169
(b)	Project coordination and management	4			2		6	\$ 918
	Subtotal	7	0	3	5		15	\$ 2,087
	Total Hours	36	36	173	8		245	
	Subtotals - Labor Costs	\$ 6,980	\$ 6,933	\$ 21,549	\$ 570		-	\$ 36,032

Direct Costs (see Table 1)	\$ 761
TOTAL PROJECT COST	\$ 36,793



TIME & MATERIALS (T&M) COST ESTIMATE
Vine Trail at Bale Slough, Napa County, CA
2-D Hydraulic Modeling and Flood & Sediment Impact Assessment

Labor Category		Project Manager	Senior Hydraulic Modeler	Water Resources Engineer	Admin/ Clerical	Hours	Labor Price
Hourly Billing Rate		\$193.89	\$192.57	\$124.56	\$71.31		

Table 1. Non-Labor Expenses

Airfare	\$350
Rental Car	\$90
Hotel (one night)	\$150
Meals (per diem \$59 per person @2 ppl)	\$118
Mileage to/from Airport (26 miles @ \$.70/mile)	\$18
Airport Parking - (1 day @ \$35/day)	\$35
	\$761

Note: Travel costs assume one local team member and one team member flying in.

Exhibit B-5**Napa Valley Vine Trail - Yountville through St. Helena****Agreement 240200B with Kimley-Horn
Amendment 6 Summary**

Task	Description	Amount
1	Project Management for the PA&ED Phase	\$ -
2	Data Collection	\$ 1,583.85
3	PSR-PDS - Project Initiation Document	\$ -
4	Engineering Studies and Project Report	\$ 32,232.16
5	Environmental Studies and Draft Environmental Documents	\$ 5,017.93
6	Circulate Draft Environmental Document (DED)	\$ -
7	Final Environmental Document	\$ (43,862.15)
8	Project Management for the ROW, PSE and DSDC Phases	\$ -
9	Right-of-Way Acquisitions	\$ -
10	Plans, Specifications and Estimates (PS&E)	\$ -
11	Design Services During Construction	\$ -
12	Local Assistance Procedures Manual Compliance/Funding Assistance	\$ -
	Other Direct Costs	\$ -
	Subconsultants - additional	\$ 87,943.00
	Subconsultants - reduction	\$ (82,914.79)
	Optional Task 5.2.7	\$ -
Total		\$ -

