THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
BOARD ACTION SUMMARY

DEPT: Public Works

BOARD AGENDA:5.C.2
AGENDA DATE: May 8, 2018

SUBJECT:
Approval of Amendment No. 2 to the Dokken Engineering, Inc. Professional Design Services Agreement for the Santa Fe Avenue Over Tuolumne River Bridge Replacement Project

BOARD ACTION AS FOLLOWS: **RESOLUTION NO. 2018-0204**

On motion of Supervisor Chiesa **Seconded by Supervisor** Withrow
and approved by the following vote,
Ayes: Supervisors: Olsen, Chiesa, Withrow, Monteith, and Chairman DeMartini
Noes: Supervisors: None
Excused or Absent: Supervisors: None
Abstaining: Supervisor: None

1) X **Approved as recommended**
2) _____ **Denied**
3) _____ **Approved as amended**
4) _____ **Other:**

MOTION:

Elizabeth A King

ATTEST: **ELIZABETH A. KING, Clerk of the Board of Supervisors** **File No.**

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
AGENDA ITEM

DEPT: Public Works

BOARD AGENDA:5.C.2
AGENDA DATE: May 8, 2018

CONSENT: ☑

CEO CONCURRENCE:

4/5 Vote Required: No

SUBJECT:

Approval of Amendment No. 2 to the Dokken Engineering, Inc. Professional Design Services Agreement for the Santa Fe Avenue Over Tuolumne River Bridge Replacement Project

STAFF RECOMMENDATION:

1. Approve Amendment No. 2 to the Dokken Engineering, Inc. professional design services agreement for additional geotechnical engineering and construction support services for the Santa Fe Avenue over Tuolumne River Bridge Replacement Project, in the amount of $148,685.
2. Authorize the Director of Public Works to execute the amendment with Dokken Engineering, Inc. in the amount of $148,685 and to sign necessary documents.

DISCUSSION:

The Santa Fe Avenue Bridge over the Tuolumne River is a major north/south arterial road near Empire. The bridge is located approximately 1.0 miles south of State Route 132 and serves as a link between the City of Empire and the City of Hughson. The bridge serves approximately 10,000 vehicles per day with 10% of those vehicles being commercial trucks.

The Santa Fe Avenue Bridge was built in 1947 and is currently rated by Caltrans as functionally obsolete. Additionally, the bridge is deemed to be seismically deficient and therefore does not meet current seismic design standards. As a result Caltrans has determined that replacement of the bridge is a more feasible option than retrofitting the bridge to meet current seismic and geometric design standards.

The current structure is narrow having a width of only 24 feet curb to curb and allows for two travel lanes with no shoulder on either side. The proposed replacement structure will have two 12 feet travel lanes, 8 feet shoulders, and a 12 feet center median lane to accommodate safe turning movements to and from existing driveways located at both ends of the bridge.

On June 28, 2016, the Board awarded a Professional Design Services Agreement to Dokken Engineering in the amount of $932,890. This agreement was amended for $5,133 for additional services needed to complete the final design of the project.

On July 25, 2017, the Board awarded the construction contract to Myers and Sons Corporation and construction began in the summer of 2017. Since October 2017, the contractor has encountered challenges in drilling Pier 3, one of the large diameter, cast-

in-drilled-hole concrete piles. There have been three collapses in the Pier 3, including the contractor losing their 10-foot drill tool, 90 feet deep. The project schedule is delayed by every working day the contractor is stuck in Pier 3. To overcome this challenge, the construction management team needs additional geotechnical engineering and construction support services from Dokken Engineering, Engineer of Record, to provide solutions and possible redesign of the foundation. The attached amendment (Amendment No. 2), details the scope of additional services required to successfully overcome this challenge and continue the delivery of this critical project. Summary of original agreements and amendments are as follows:

Original Agreement	$932,890
Amendment No. 1	$5,133
Amendment No. 2	$148,685
TOTAL	$1,086,708

Public Works staff recommends amending the agreement in the amount of $148,685 in order to continue construction on this structurally deficient and functionally obsolete bridge without further delay.

POLICY ISSUE:

Public Contract Code section 20137 requires Board of Supervisors' approval to amend a contract exceeding 10% of the original agreement.

FISCAL IMPACT:

Total costs associated to assure delivery of this project is estimated at approximately $16,131,305. The project is funded with $14,051,477 of Federal Highway Bridge Program funds, $463,732 of State Proposition 1B, Local Seismic Safety Retrofit Program funds and $1,616,096 of Regional Transportation Impact Fees (RTIF).

The cost associated with the additional design services is approximately $148,685 and is funded with RTIF funds. Funding is available in the Fiscal Year 2017-2018 Adopted Final Public Works Roads Projects budget.

BOARD OF SUPERVISORS' PRIORITY:

The recommended actions are consistent with the Board's priority of *Delivering Efficient Public Services and Community Infrastructure* by replacing a functionally obsolete and structurally deficient bridge that allows a major arterial road to connect two communities.

STAFFING IMPACT:

Existing Public Works staff is overseeing this project.

CONTACT PERSON:

Matt Machado, Public Works Director Telephone: (209) 525-4153

ATTACHMENT(S):

1. Amendment #2 - Agreement with Dokken Engineering, Inc

STANISLAUS COUNTY
Second Amendment to Professional Design Services Agreement
between County of Stanislaus and Dokken Engineering

Santa Fe Avenue over the Tuolumne River Bridge Replacement – Contract No. 9254

This Second Amendment is made and entered into this 15th day of May, 2018, in the City of Modesto, State of California, by and between the County of Stanislaus ("County") and Dokken Engineering of Folsom, California ("Consultant"), for and in consideration of the promises, and the mutual promises, covenants, terms, and conditions, hereinafter contained.

WHEREAS, on June 28, 2016, the Stanislaus County Board of Supervisors awarded a Professional Design Services Agreement ("Agreement") to Consultant for the Santa Fe Avenue over the Tuolumne River Bridge Replacement Project in the amount of $932,890;

WHEREAS, on June 28, 2016, the Stanislaus County Board of Supervisors authorized the Director of Public Works to execute the agreement with the Consultant and to sign necessary documents, including any amendments to the Agreement not to exceed 10%;

WHEREAS, on May 19, 2017, the Director of Public Works executed the First Amendment for $5,133;

WHEREAS, Section 3.3 of the Agreement states that additional services must be approved in writing by the County;

WHEREAS, the Director of Public Works determined that the additional services are necessary for completion of the project;

WHEREAS, an increase of One Hundred Forty-Eight Thousand Six Hundred Eight-Five Dollars ($148,685) to the Agreement is necessary to cover the additional services;

$ 938,023	Agreement
+ 148,685	Second Amendment
$1,086,708	Total

WHEREAS, Consultant has continued to diligently perform the services requested to support this project in good faith; and,

NOW THEREFORE, the parties agree as follows:

1. Section 1.1 - Scope of Services is amended to include additional services as shown in "Exhihit 1-A" attached hereto and made a part of this Amendment.

2. Section 3.1 – Compensation is amended to include additional fees of One Hundred Forty-Eight Thousand Six Hundred Eight-Five Dollars ($148,685) as shown in "Exhihit 1-A"

attached hereto and made a part of this Amendment. Consultant's compensation shall in no case exceed One Million Eight-Six Thousand Seven Hundred Eight Dollars ($1,086,708).

3. All other terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Second Amendment effective on the date written above.

COUNTY OF STANISLAUS

By: _____
Matt Machado, Director
Department of Public Works

DOKKEN ENGINEERING

By: _____
Richard T. Liptak
President

APPROVED AS TO FORM
John P. Doering, County Counsel

By: _____
Amanda DeHart
Deputy County Counsel

DOKKEN ENGINEERING
www.dokkenengineering.com

April 9, 2018

Mr. Shoaib Ahrary
Stanislaus County Department of Public Works
1716 Morgan Road
Modesto, CA 95358

RE: Santa Fe Avenue Bridge Replacement Project: Supplemental Scope/Estimate

Dear Mr. Ahrary,

Dokken Engineering is currently under contract with Stanislaus County to provide engineering and environmental services for the Santa Fe Avenue Bridge Replacement Project. Our current work focuses on providing the support necessary to construct the new bridge crossing of the Tuolumne River along Santa Fe Avenue.

During the course of construction, the contractor has had significant challenges constructing the piers and foundation supports for the bridge. The Dokken Team has provided feedback, reviews, and guidance to the construction team to assist in maintaining the construction schedule. These efforts have been conducted using the Construction Support task of our current contract. More recently, the construction team has required additional geotechnical expertise that exceeds the capacity of the Construction Support Task. In this regard, we would like to request an amendment to cover this supplemental work.

Dokken Engineering has prepared a supplemental Scope of Work (Attachment A) and a supplemental Cost Estimate (Attachment B) outlining the additional tasks necessary to assist the forward progress of construction. Please review the enclosed scope of work and cost proposal at your earliest opportunity and contact me at (916) 858 0642 if you have any questions or need additional information.

Thank you in advance for your consideration of this supplemental work proposal.

Sincerely,

DOKKEN ENGINEERING

Pamela Dalcin-Walling, PE
Project Manager

ATTACHMENT A
SCOPE OF WORK

TASK 13.0 CONSTRUCTION SUPPORT

Task 13.2 – Respond to Requests for Information

Dokken will continue to provide ongoing consultation and interpretation of contract documents as requested to support the construction effort. This includes assisting with the efforts to assess and resolve the current challenges associated with the foundation construction.

Task 13.6 – Observations of Pile Operations

Geocon will observe the pile mitigation operations and CIDH pile drilling to verify that subsurface conditions are consistent with the conditions presented on the Log of Test Borings for the project. A Geocon field engineer or geologist will observe secant pile drilling and/or CIDH pile drilling operations to observe the subsurface conditions encountered. Up to 8 days of inspection are assumed.

Task 13.7 – Cone Penetration Testing (CPT)

To evaluate the nature and extent of soil disturbance around the shaft to aid in designing a replacement foundation element at this location, Geocon will include in-situ cone penetration testing (CPT) followed by exploratory borings, limited lab testing, and engineering analysis. This effort will include the following tasks:

Pre-Field Activities

- Perform a site reconnaissance to review project limits, determine drill rig and CPT rig access.
- Notify subscribing utility companies via Underground Service Alert (USA) a minimum of two-working days (as required by law) prior to performing exploratory excavations at the site.
- Retain the services of a California C57-licensed drilling subcontractor to perform exploratory borings and CPT soundings.

CPT Soundings

- Perform up to five (5) CPT soundings adjacent to and near the drilled shaft to refusal depths estimated to range up to 90 feet.
- Record tip resistance and sleeve friction within the CPT soundings to the full depth per ASTM D5778.
- Review the CPT data to evaluate the potential presence of voids and to evaluate soil density, consistency and strength.
- Upon completion, backfill the CPT soundings with neat cement grout.

Mud-Rotary Borings

- Based on the results of the CPT soundings, we may perform up to five (5) exploratory borings using mud-rotary drilling techniques to depths of approximately 100 feet.
- Obtain representative disturbed and undisturbed soil samples from the exploratory borings using Standard Penetration Test (SPT) and California-modified driven split-spoon samplers.
- Log the borings in accordance with Caltrans procedures.
- Dispose of the drill cuttings/fluids onsite.

- Upon completion, backfill the borings with neat cement grout.
- Perform laboratory tests to evaluate pertinent geotechnical parameters.

Engineering Analysis and Report Preparation

- Analyze the field and laboratory testing data. Collaborate with the bridge designer and contractor (as appropriate) to develop and design a replacement foundation element at Pier 3. Potential replacement foundations may include a drilled shaft, a cast-in-steel-shell (CISS) pile, or a combination thereof. Ground improvement, such as deep soil mixing or grouting may also be performed.
- Provide a summary letter report detailing our findings, conclusions, recommendations, and design parameters.

Task 13.8 – Supplemental Bridge Design (Optional)

In the event that it is determined to be infeasible to construction Pier 3 in its originally intended location due to the disruption of soils that currently exist at the site, Dokken will prepare an updated bridge design that provides for moving Pier 3 outside the current soil disturbance zone. This task includes updating the design and check calculations and updated plan sheets to reflect the new design.

ATTACHMENT B
Cost Estimate

DOKKEN ENGINEERING
www.dokkenengineering.com

Estimated Labor Hours and Cost

Task Description	DOKKEN ENGINEERING									GEOCON								GRAND TOTAL HOURS	OTHER DIRECT COSTS	GRAND TOTAL COSTS
	PAMELA DALCIN-WALLING, PE Project Manager	Rob Burns, PE Structures Project Engineer	John Kozak, PE Roadway Project Engineer	Associate Bridge Engineer	Assistant Engineer	CADD Detailing & Estimating	TOTAL HOURS	OTHER DIRECT COST	TOTAL COST	Senior Engr/Geologist	Senior Staff Eng/Geologist	Staff Engr/Geologist	Draftsman	Admin/Word Processing	TOTAL HOURS	OTHER DIRECT COST	TOTAL COST			
	$187.94	$182.33	$95.37	$129.03	$84.15	$134.64				$95.37	$168.30	$140.25	$112.20	$71.53						
TASK 13 .0 - CONSTRUCTION SUPPORT	44	60	40	80	160	240	624		$79,123	100	106	40	8	16	270	$34,533	$69,562	894	$34,533	$148,685
13.2 Respond to RFI's	24		40		16		80		$9,672									80		$9,672
13.6 Observations of Pile Operations	4	8					12		$2,210	18	80	40		12	150		$21,649	162		$23,859
13.7 Cone Penetration Testing (CPT)	4	12					16		$2,940	82	26		8	4	120	$34,533	$47,913	136	$34,533	$50,852
13.8 Supplemental Bridge Design (Optional)	12	40		80	144	240	516		$64,302									516		$64,302
TOTAL HOURS	44	60	40	80	160	240	624			100	106	40	8	16	270			894		
TOTAL COST	$8,269.14	$10,939.50	$3,814.80	$10,322.40	$13,464.00	$32,314			$79,123	$9,537	$17,840	$5,610	$898	$1,144		$34,533	$69,562		$34,533	$148,685