



January 10, 2022

Mr. Nathan Garza
Capital Projects Manager
City of New Braunfels
550 Landa Street
New Braunfels, TX 78130

RE: Klein Road Roadway Repair Design Project -
Professional Services Fee Proposal

Dear Mr. Garza:

Per our conversation with the City of New Braunfels on December 20, 2021, Trihydro Corporation (Trihydro) is submitting this revised proposal to provide professional services for the Klein Road Roadway Repair Design Project (Project). We understand the City of New Braunfels (CoNB) is interested in design and bidding services to repair failed sections of the Klein Road Reconstruction project. The Klein Road Reconstruction begins at FM 1044 and ends at South Walnut Avenue. The redesign efforts will be limited to the areas of Klein Road that show visual signs of failure at the pavement surface. Based on field observations and information from the City of New Braunfels, Trihydro will prepare plans for the resurfacing of the failed sections along Klein Road between FM 1044 and S. Walnut Avenue.

We prepared a scope of services with the goal of providing a concise and detailed presentation of individual tasks we believe are necessary to complete this Project as efficiently and cost-effectively as possible. A summary of our proposed scope of services is provided below. We have also included an itemized cost estimate with the labor hours anticipated for each task and Trihydro's 2022 schedule of charges (Attachment A).

PROJECT DESCRIPTION

Based on conversations with CoNB, a windshield survey, and our engineering experience, this Project will include the following:

- Preparation of a plan set for the partial and full-depth pavement repair of identified segments of Klein Road from FM 1044 to South Walnut Avenue
- Survey roadway repair locations, including tie-in points at each repair end, curb and gutter flowlines, and visible utilities (i.e., curb inlets and water valve locations)



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- Design of riprap in locations identified by CoNB
- Depending on results of Task A200 – Surveying Services, additional repair design may be identified. See Task A200 below

SCOPE OF WORK

Our proposed scope of work is based on roadway repair design for Klein Road from FM 1044 to South Walnut Avenue. Total length of roadway repair will be determined as part of task A200 – Surveying Services. We anticipate the design to take four months. Another six months is estimated for bidding through construction.

Task A100 – Project Management, Coordination, Meetings, and Review

Project management is crucial to completing a project on time and within budget. Trihydro has experience with similar projects and understands that key components include prompt communication, active engagement with the project team including the CoNB Project Manager, and keeping the CoNB apprised of timelines, concerns, and design issues that need to be addressed throughout the project. Mr. Sam Johnson, P.E. will serve as Trihydro's project manager (PM) and primary point of contact. Mr. Jason Vreeland, P.E. will serve as the Project Director supporting Sam with quality assurance/quality control (QA/QC) reviews and providing staff resources.

We believe the kick-off meeting with CoNB staff and Raba Kistner (RKCI), the geotechnical engineer of record, is critical to the Project's success. Mr. Johnson will facilitate this meeting to gather input from CoNB staff, RKCI, and Project team members concerning potential design issues, design alternatives, and Project needs. He will identify lines of communication during the kick-off meeting detailing which parties will be included on correspondence such as official correspondence, email communication, and Project submittals. As part of the kick-off meeting, Trihydro, the CoNB, and RKCI will perform a site visit and complete a Project-area review. The site visit will include driving and walking the roadway corridor from FM 1044 to South Walnut Avenue, on both sides of Klein Road, to identify roadway conditions; traffic routing concerns; and other considerations and challenges. Trihydro will bring a Project-area figure to redline during the site walk and keep notes. We will provide a Project-area review summary with the kick-off meeting minutes. The Project-area review will allow Trihydro, the CoNB, and RKCI to be on the same page as design work begins with a shared understanding of Project priorities.

Additionally, with the CoNB's approval, Trihydro will begin communications with the Texas Department of Transportation (TxDOT) at this stage to discuss repair plans and potential for a traffic control plan near the FM 1044 connection.



Details/Assumptions/Approach

Trihydro will coordinate and conduct Project meetings with the CoNB related to the plan submittal schedule to gather and discuss CoNB comments. This task involves engaging and motivating team resources, managing the Project budget, conducting Project meetings, and scheduling Project tasks. Additional subtasks include:

- Conduct the Project kick-off meeting with the CoNB - 2 hours
- Conduct Project-area drive/walk with the CoNB and Project team - 2 hours
- Conduct a Project design review meeting at Preliminary Design with the CoNB and Raba Kistner (the CoNB's geotechnical engineer of record) - 2 hours
- Review the Project budget
- Review Project billings and prepare progress reports including documenting issues, if encountered
- QA/QC reviews
- Begin communications with TxDOT

Deliverables

- Prepare meeting materials, exhibits, and agendas
- Compile meeting minutes from the kick-off meeting and subsequent design meetings
- Prepare progress reports

Task A200 – Surveying Services

This project includes field surveying each repair area from tie-in point to tie-in point, including curb and gutter flow line and visually-seen utilities (i.e., curb inlets and water valves), and survey of riprap structure areas. Trihydro will obtain surface survey data for the areas identified and agreed upon during the Project kick-off meeting along Klein Road.

The Project survey extents will be discussed with the CoNB during the kick-off meeting and project-area site walk. This will help confirm everyone is on the same page as the Project advances. The information obtained from surveying will be incorporated into a survey base map drawing.

Details/Assumptions/Approach

- Collect surface survey data for the identified roadway repair/replacement areas and riprap structure areas
- Coordinate Project survey control



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- Evaluate potential utility conflicts and coordinate with CoNB
- Attend meeting with utility company representative(s) to discuss utility locations and potential conflicts
- Survey data collection will occur during two separate visits
- Trihydro will complete the design work using Civil3D

Task A300 – Preliminary Roadway Repair Design

The preliminary roadway repair design task includes preparing and submitting preliminary design plans for the CoNB's review. Roadway surfacing and subgrade repair design will be based on geotechnical investigations and recommendation provided by CoNB and RKCI as discussed during our December 20, 2021 meeting. The roadway repair design will include the final 2-inch pavement lift after the roadway repairs are completed. Design will also include riprap structures in locations identified by CoNB. The riprap structures will provide erosion control near several drainage features within the Project limits.

Trihydro will coordinate a design review meeting to discuss CoNB and RKCI comments and design issues/concerns following the submittal of the preliminary design plans. Additional work includes preparing the Project Manual including specifications and special provisions, and the measurement and payment section, in conformance with the CoNB and TxDOT requirements. The Project Manual and a detailed engineer's cost estimate will be submitted during the preliminary design phase.

Details/Assumptions/Approach

- Review existing maps, drawings, and reports on file with the CoNB
- Prepare preliminary design plans
- Conduct QA/QC review
- Perform a constructability review
- Meet with CoNB staff and RKCI to review comments following the preliminary plan design submittals (under Task A100)
- Prepare detailed engineer's cost estimate
- Prepare Project Manual specific to CoNB and TxDOT requirements
- Incorporate CoNB and RKCI preliminary design review comments into final design
- Traffic control plans
- Prepare draft traffic control plan for review by the CoNB and TxDOT
- Submit design plans to private utilities for review



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- Place two details per detail sheet
- Electronic submittal of the Project Manual as a PDF
- Electronic submittal of the engineer's cost estimate at the preliminary design phase

Deliverables

- Preliminary design submittal including PDFs for 11x17 plans at 1" = 100' scale, project manual, and engineer's cost estimate

Task Items Not Included in the Preliminary Roadway Design Scope

- Assist with CoNB public meetings
- Prepare 60% and final design plans, project manuals, and cost estimates

Task A400 – Final Roadway Repair Design

The final design task includes the final submittal of the plan set drawings, cost estimate, and Project Manual. Trihydro will incorporate preliminary design task comments into the final design. During this task and following CoNB approval, Trihydro will submit the traffic control plan to TxDOT. Additionally, Trihydro's quality control process requires a constructability review by our field personnel during this final design task.

Details/Assumptions/Approach

- Prepare final construction plans
- Prepare detailed engineer's cost estimate
- Submit the traffic control plan for CoNB and TxDOT approval
- Prepare final Project Manual
- Electronic submittal of the Project Manual as a PDF
- Electronic submittal of the engineer's final design cost estimate

Deliverables

- Final design submittal includes a PDF for 11x17 plans at 1" = 100' scale, Project Manual, and final cost estimate



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Task A500 – Bidding Services

Trihydro will provide bidding support services, including providing the CoNB with PDF copies of the plan set and Project Manual for electronic bidding, preparing addendums, attending the pre-bid meeting and project walkthrough, and tabulating and evaluating bids. Trihydro will be available to respond to bidder questions as requested by the CoNB Project Manager.

Details/Assumptions/Approach

- Provide PDF copies of the plan set and Project Manual to the CoNB electronic bidding
- Respond to bidder questions as requested by the CoNB Project Manager
- Prepare addendums and submit to the CoNB for electronic upload to bidding site
- Attend and assist CoNB staff with pre-bid meeting and Project walkthrough
- Prepare pre-bid meeting minutes for distribution
- Assist the CoNB during bid opening
- Evaluate bids for accuracy and determine the acceptability of the apparent successful bidder
- Prepare and distribute bid tabulation sheets
- Provide contract award recommendation to the CoNB
- Issue Notice of Award including additional required materials after receiving CoNB approval
- Prepare and distribute construction plans and Project Manual to the Contractor
- Provide a final set of documents to the City including 7 sets of 11x17 plans
- Submit CADD drawings and a PDF set of 11x17 plan sets
- Provide three copies of the Project Manual along with a PDF copy

Task A600 – Construction Administration (Optional)

Trihydro can provide construction administration services once the project has been awarded. If requested by CoNB, we will provide a proposal for these services after final design is completed and construction schedule is better understood.

SCHEDULE

Trihydro estimates the Project will require approximately 4 months from receipt of an approved contract . We are available to proceed with the Project immediately upon receipt of the Notice to Proceed.



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FEE ESTIMATE

Our estimated fee for is **\$106,964** (Table 1-1 in Attachment A). Our fee is based on the tasks outlined above, hourly rates, and expenses. Invoices will be prepared on a time and materials basis with a cost not to exceed the estimated amount without written authorization. Upon your acceptance of this fee proposal, approved contract, and notice to proceed, we will schedule a kick-off meeting with CoNB and RKCI. Please call us at (830) 626-3588, if you have questions.

Sincerely,
Trihydro Corporation



Samuel K. Johnson, Jr., P.E.
Project Manager




Jason Vreeland, P.E.
Project Director

999-702-413

Attachments

TABLE

TABLE 1-1. COST ESTIMATE
CITY OF NEW BRAUNFELS KLEIN ROAD PHASE 1 ROADWAY REPAIR DESIGN
NEW BRAUNFELS, TEXAS

<div></div>		Trihydro Corporation												
		Principal	Professional Level 10	Professional Level 8	Professional Level 7	Professional Level 6	Professional Level 4	Professional Level 3	Professional Level 2	Technical Level 5	Technical Level 4	Technical Level 3	Administrative 2	Labor Subtotal
TASK	DESCRIPTION	\$220	\$178	\$165	\$160	\$155	\$132	\$125	\$115	\$105	\$96	\$87	\$68	
	RESEARCH AND DESIGN													
A100	Project Management, Coordination, Meetings, and Review													
	Project Management			40									4	\$6,872
	Kick-off Meeting/site visit, Coordination Meetings and 60% and 90% Design Review Meetings		8	16				8	24			8	5	\$8,860
	QA/QC review for all submittals	4	10	30				40						\$12,610
A200	Surveying Services													
	Supplemental Survey using traditional methods						4			24	16			\$4,584
	Prepare Base Map					16			16			8		\$5,016
A300	Preliminary Roadway Repair Design													
	Roadway Repair Preliminary Design including Project Manual preparation		4	16				64	60			24		\$20,340
	Riprap Preliminary Design		1	10				40	40			12		\$12,472
	Assist CoNB with Public Meeting at the 60% design level, including visual aids													\$0
	Prepare Cost Estimates		1	4				18	4					\$3,548
A400	Final Roadway Repair Design													
	Final Design Plans and Project Manual			12				48	48			16		\$14,892
	Final Cost Estimate			6				24	4					\$4,450
A500	Bidding Services													
	Pre-Bid Meeting		2	8				10					2	\$3,062
	Respond to Questions and issue Addendums			16				8				8	2	\$4,472
	Evaluate bids and make recommendation for award			16				14					2	\$4,526
	Phase I Subtotal (hours)	4	26	174	0	16	4	274	196	24	16	76	15	825
	Phase I Subtotal (\$)	\$880	\$4,628	\$28,710	\$0	\$2,480	\$528	\$34,250	\$22,540	\$2,520	\$1,536	\$6,612	\$1,020	\$105,704
	Total (hours)	4	26	174	0	16	4	274	196	24	16	76	15	825
	Total (\$)	\$880	\$4,628	\$28,710	\$0	\$2,480	\$528	\$34,250	\$22,540	\$2,520	\$1,536	\$6,612	\$1,020	\$105,704

Expenses				Task Total
Direct Reimbursables				
	Subcontracts (Labor, Equipment and Services)	Company Field Equipment (See Equip tab)	Expenses Subtotal	
	Cost + 15%	Cost		
			\$0	\$6,872
			\$0	\$8,860
			\$0	\$12,610
		\$1,260	\$1,260	\$5,844
			\$0	\$5,016
			\$0	\$20,340
			\$0	\$12,472
				\$0
			\$0	\$3,548
				\$14,892
				\$4,450
			\$0	\$3,062
				\$4,472
			\$0	\$4,526
Cost	\$0	\$1,260	\$1,260	--
Subtotal	\$0	\$1,260	\$1,260	\$106,964
Cost	\$0	\$1,260	\$1,260	--
Total	\$0	\$1,260	\$1,260	\$106,964

ATTACHMENT A

TRIHEDRO TEXAS STANDARD SCHEDULE OF CHARGES

JANUARY 1, 2019 - DECEMBER 31, 2022 ^{2, 3, 4}

<u>PERSONNEL</u>	<u>UNIT RATE^{1,7}</u>
Senior Principal-----	240.00/hour
Principal-----	220.00/hour
Project Principal-----	210.00/hour
Technical Specialist 4-----	250.00/hour
Technical Specialist 3-----	240.00/hour
Technical Specialist 2-----	225.00/hour
Technical Specialist 1-----	200.00/hour
Professional Level 12-----	197.00/hour
Professional Level 11-----	185.00/hour
Professional Level 10-----	178.00/hour
Professional Level 9-----	170.00/hour
Professional Level 8-----	165.00/hour
Professional Level 7-----	160.00/hour
Professional Level 6-----	155.00/hour
Professional Level 5-----	144.00/hour
Professional Level 4-----	132.00/hour
Professional Level 3-----	125.00/hour
Professional Level 2-----	115.00/hour
Professional Level 1-----	105.00/hour
Technician Level 8-----	130.00/hour
Technician Level 7-----	125.00/hour
Technician Level 6-----	115.00/hour
Technician Level 5-----	105.00/hour
Technician Level 4-----	96.00/hour
Technician Level 3-----	87.00/hour
Technician Level 2-----	78.00/hour
Technician Level 1-----	65.00/hour
Administrative 4-----	83.00/hour
Administrative 3-----	75.00/hour
Administrative 2-----	68.00/hour
Administrative 1-----	60.00/hour
<u>EXPENSES</u>	
Subcontracts (Labor, Equipment and Services)-----	Cost + 15%
Shipping (i.e. Documents, Equipment, Supplies)-----	Cost
<u>TRAVEL EXPENSES</u>	
Meal Per Diem ⁶ -----	\$55/day/person
Airline Tickets-----	Cost
Hotel/Motel-----	Cost
Rental Vehicle-----	Cost
<u>FIELD EXPENSES AND EQUIPMENT</u>	
Consumable Field Supplies-----	Cost + 15%
Rental Equipment-----	Cost + 15%
Purchased Equipment-----	Cost + 15%
Company Field Instruments, Equipment, Vehicles, etc.-----	See Field Charge Sheet
Consumable Field Supplies and PPE-----	See Field Charge Sheet
Company Vehicles (daily) ⁵ -----	Project Specific
Company Vehicles (monthly)-----	Project Specific

1. The above charges include fringe benefits, overhead and profit. No multiplier is used for billing.
2. An annual escalation rate less than or equal to 5% will be applied to these rates for multi-year projects and contracts.
3. Payment of invoices shall be due within thirty days; delinquent amounts due shall accrue a late charge of 1 1/2% per month from date of invoice.
4. The rates in this Schedule of Charges are subject to change on December 31, 2022.
5. Miles are charged at the IRS reimbursement rate and are subject to change throughout the year.
6. Any International travel meal per diem will be at cost.
7. Expert testimony services, including but not limited to review and preparation of documents, preparation for and time spent in depositions, and preparation for and time spent during arbitration or trial testimony, as well as related research and evaluation, shall be charged at 1.5 times the individual's billing level.