

EXHIBIT A

SCOPE OF WORK
FOR
HILLSIDE AVENUE BRIDGE #232/066
OVER
DEAD RIVER

NHDOT PROJECT #15792

Prepared for: City of Berlin

December 14, 2016

Prepared by: HEB Engineers, Inc.

This Exhibit is attached to and becomes part of the Letter Agreement between HEB Engineers, Inc. (HEB), Engineer, and the City of Berlin, dated December 14, 2016. The purpose of the work is to provide engineering services for replacement of the above-mentioned bridge which will be funded by the New Hampshire Department of Transportation Municipal Managed Bridge Program.

Project Understanding:

- The Hillside Avenue Bridge is on the NHDOT's Municipal Redlist of bridges that need immediate rehabilitation or replacement.
- The bridge replacement is eligible for funding through the NHDOT SAB program for fiscal year 2017.
- A permitting phase was approved as part of the original Contract in 2009. Only a portion of the work was previously completed and billed. A new phase is included in this Proposal to prepare and submit the required NHDES wetland permit application.
- HEB Engineers prepared Final Plans, Project Manual, and an Engineer's Estimate of Project Cost in 2011. These documents were approved by NHDOT in a letter dated October 26, 2011. These documents need to be updated prior to putting the project out to bid.

Permitting: HEB Phase 004A (REVISED PHASE)

The purpose of this phase is to apply for permits to proceed with construction. All application fees are to be paid by the Town. HEB will provide the following services for the project during this phase:

- Create plans required for the permit applications.
- Coordinate with City Official(s) to assist in the expedited application process.
- Submit NHDES Wetland Permit application and supply required supporting information.
- Prepare one (1) round of revisions based on NHDES review.

Deliverables will be: NHDES Wetland Permit application materials.

Number of meetings attended will be: None anticipated.

Number of site visits will be: None anticipated

Final Design Updates: Phase 006

The purpose of this phase is to update the documents (originally prepared in 2011) needed to bid and construct the project. HEB will provide the following services for the project during this phase:

- Visit site to verify existing conditions.
- Update Final Design Plans originally prepared in 2011 to current codes and standards.
- Update Project Manual originally prepared in 2011 to current codes and standards.
 - The Project Manual will include references to NHDOT specifications, as well as supplemental specifications as needed. Also included are the Contract Documents: general conditions, bid form, and contract agreement. These documents are industry-standard documents prepared by the Engineers Joint Contract Documents Committee (EJCDC).
- Update Engineer's Opinion of Probable Construction Cost originally prepared in 2011.
- Finalize easements with Abutters.
- Meet with City Official(s) to review a draft final Construction Documents.
- Submit final Construction Documents for City and NHDOT review.
- Produce minor revisions to final Construction Documents as requested by City and/or NHDOT.

Deliverables will be: Final Construction Documents.

Number of meetings attended will be: One (1) with City Official(s).

Number of site visits will be: One (1) to verify existing conditions.

Bidding Assistance: Phase 007

The purpose of this phase is to advertise for contractor bids and coordinate the bid award. HEB will provide the following services for the project during this phase:

- Prepare the advertisement and distribute through popular construction advertisement periodicals.
- Organize a pre-bid meeting on-site for interested contractors to familiarize them with the project and bidding process, as well as take questions regarding the project.
- Produce addendum, as necessary, to clarify the design and Project Manual.
- Receive and review bids at the bid opening. Check experience and references, as necessary.
- Meet with City Official(s) to discuss the Contract award.
- Make a formal recommendation to the Town for the Contract award.
- Produce final construction Contract Documents and finalize Project Manual.
- Meet with City Official(s) and Contractor to sign contract.

Deliverables will be: Addendum (as necessary), letter of recommendation for Contract award, and finalized Contract Documents and Project Manual.

Number of meetings attended will be: One (1) bid opening and two (2) with City Official(s).

Number of site visits will be: One (1) pre-bid meeting.

*****The following phases are not included in this agreement. Additional services will be finalized under separate contract amendment upon approval from NHDOT.*****

Construction Administration Services: Phase 008

The purpose of this phase is to observe construction based on the Contract Documents. HEB will provide the following services for the project during this phase:

- Hold a pre-construction meeting with Town Official(s) and the Contractor to discuss project expectations.
- Review submittals from the Contractor required to conform to the project specifications.
- Respond to Contractor's requests for information (RFI) and render interpretations, as necessary, of the Contract Documents and make modifications to meet unanticipated conditions.
- Prepare detailed sketches, as necessary, to supplement the contract documents.
- Attend progress meetings with Town Officials(s).
- Provide part-time field observation by an HEB Engineer to review construction progress relative to the Construction Documents. HEB will also review the Contractor's quantities and payment applications.
- Prepare a Field Report for each site visit, which will outline the work performed, field observations, items discussed, scheduled work, and photos.
- Prepare Certificate of Substantial Completion upon substantial completion and prepare a "punch list" of those items that need to be corrected prior to approval of final payment to the Contractor.
- Conduct a final walkthrough with Town Official(s) and the Contractor.

Note: HEB is not responsible for directing contractor's work or for the contractor's safety precautions or programs in connection with the work. Means and methods are the sole responsibility of the contractor.

Deliverables will be: Submittal reviews, RFI responses, revised/supplemental drawings/sketches, field reports, payment application recommendations, certificate of substantial completion, and punch list.

Number of meetings attended will be: One (1) pre-construction meeting and eight (8) progress meetings.

Number of site visits will be: Four to five (4 - 5) site visits per week during construction progress and one (1) final walkthrough with Town Official(s).

Project Closeout: Phase 009

Following approval of the final plans, HEB will prepare a final load rating analysis (calculation) demonstrating the load capacity of the new bridge. The load rating analysis will be prepared according to the AASHTO Strength Design Method (Load Factor Method) and submitted to NHDOT Bridge Inspection Division on their required form. As part of this phase of services, HEB will also prepare record drawings and furnish a set to the Town and NHDOT. HEB will provide the following services for the project during this phase:

- Prepare NHDOT Form 4, load rating.
- Prepare record drawings, which indicate significant changes to the construction drawings.
- Hold closeout meeting with Town Officials(s).
- Submit project close-out documents to NHDOT and Town.

Deliverables will be: NHDOT Form 4 (load rating) and record drawings to Town and NHDOT.

Number of meetings attended will be: One (1) with Town Official(s).

Number of site visits will be: None anticipated.

Assumptions:

- New Hampshire Department of Environmental Services (NHDES) and Army Corps of Engineers (ACOE) wetland permits will be required for any work performed in the river channel.
- Any permit application fee will be paid for directly by the City and are not included in the fee estimate below.
- NHDOT submittal reviews will be conducted within four weeks.

Schedule: The proposed schedule for the work is as follows:

Phase	Description	Estimated Duration	Estimated Completion
	<i>Agreement Execution</i>	<i>2 – 3 weeks</i>	<i>January 6, 2017</i>
004A	NHDES Wetland Permitting	4 – 6 weeks	February 10, 2017
	<i>NHDES Review</i>	<i>75 days</i>	<i>April 25, 2017</i>
006	Final Design Updates	4 – 6 weeks	February 10, 2017
	NHDOT Review	4 weeks	March 3, 2017
007	Bidding Assistance	4 – 6 weeks	April 14, 2017
	<i>Contract Amendment w/</i>	<i>3 – 4 weeks</i>	<i>TBD</i>
	<i>NHDOT Review</i>		
	<i>Begin Construction</i>		<i>TBD</i>
008	Construction Administration	16 – 24 weeks	TBD
009	Project Closeout	4 – 6 weeks	TBD

Fee: The schedule of fees for the work, including travel, is as follows:

Phase	Description	Lump Sum	Est. Reimbursables	Total
004A	Permitting (<i>Revised Phase</i>)	\$ 7,908	\$ 75	\$ 7,983
006	Final Design Updates	\$ 4,543	\$ 126	\$ 4,669
007	Bidding Assistance	\$ 4,936	\$ 126	\$ 5,062
Current Project Fee Totals		\$17,387	\$ 327	\$17,714

Future Phases **Fee Estimates**

008	Construction Administration	TBD
009	Project Closeout	TBD
Estimated Future Project Fee Totals		TBD

Project Management: Mr. Jason C. Ross, PE will be the project manager for this project. He will be responsible for all client liaison, attend all client meetings, direct the project team and be responsible for overall project quality. He will be assisted by structural and civil project engineers, surveyors, technicians and administrators as needed for the successful completion of the work.

Thank you for the opportunity to present this proposal. We look forward to working with you on your project.

P:\Jobs\2009\2009-016 City of Berlin - Hillside Ave Bridge\Current Files\Administration\Design Updates and Bidding ExA 12-14-16.doc

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2605 White Mountain Hwy
North Conway, NH 03860

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Project Number: 2009-016

NHDOT Number: 15792

Project Title: Hillside Avenue Bridge #232/066 over Dead River

Client: City of Berlin

Preparer: JCR

Date: 12/14/16

Phase & Description	Man Hrs	Billing Type	Prof. Svcs.	Sub- Consult.	Reimb.	Total
PHASE 004A - PERMITTING (REVISED PHASE)	82	LS	\$7,908	\$0	\$75	\$7,983
PHASE 006 - FINAL DESIGN UPDATES	54	LS	\$4,543	\$0	\$126	\$4,669
PHASE 007 - BIDDING SERVICES	50	LS	\$4,936	\$0	\$126	\$5,062
Estimated Total Engineering Fee						\$17,714
Total Hours						186
<u>Abbreviations of Billing Type:</u> LS = Lump Sum AC + 10% = Actual Cost plus 10% profit						

2605 White Mountain Highway
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HEB Engineers, Inc.
PROJECT COST
HILLSIDE AVENUE BRIDGE 232/066
DECEMBER 14, 2016
Prepared for: City of Berlin

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PHASE 004A - PERMITTING (REVISED PHASE)

Task Description	Lead Struct Eng	Sr. Struct Eng	Staff Struct Eng	Jr Struct Eng	Res. Eng.	Lead Civil Eng	Sr. Civil Eng	Staff Civil Eng	Jr. Civil Eng	Princ. Surv.	Staff Surv. III	Staff Surv. II	Staff Surv I	Surv /Eng Tech.	CADD Tech.	Admin.	Total
Prepare permit plans for submission	2	8						20									30
Prepare abutter notifications																4	4
Prepare for and meet with Town Official(s)	8																8
Prepare NHDES Wetlands Permit Application		4	8													6	18
Prepare supporting documentation		4	12													6	22
Total - Hours	10	16	20	0	0	0	0	20	0	0	0	0	0	0	0	16	82
Hourly Rate	\$46.00	\$36.00	\$29.00	\$26.00	\$30.00	\$45.00	\$44.00	\$36.00	\$26.00	\$47.00	\$30.00	\$25.00	\$22.00	\$18.00	\$25.00	\$25.00	
Direct Labor Cost	\$460.00	\$576.00	\$580.00	\$0.00	\$0.00	\$0.00	\$0.00	\$720.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$400.00	
Totals																	
Dir. Labor	\$2,736																
OH @ 151.32	\$4,140																
Total Labor	\$6,876																
15% Profit	\$1,031																
Professional Services Total	\$7,908																
Subconsultants	\$0																
Expenses	\$75																
Reimbursable Expenses Total	\$75																
PHASE 004A TOTAL	\$7,983																

PHASE 006 - FINAL DESIGN UPDATES

Task Description	Lead Struct Eng	Sr. Struct Eng	Staff Struct Eng	Jr Struct Eng	Res. Eng.	Lead Civil Eng	Sr. Civil Eng	Staff Civil Eng	Jr. Civil Eng	Princ. Surv.	Staff Surv. III	Staff Surv. II	Staff Surv I	Surv /Eng Tech.	CADD Tech.	Admin.	Total
Site Visit		4															4
Design Review		4															4
Plan Updates		2		16												4	22
Project Manual Updates		2		8												8	18
Probable Costs Updates		2															2
Meet with Client & NHDOT to Review Final Design Plans		4															4
Total - Hours	0	18	0	24	0	0	0	0	0	0	0	0	0	0	0	12	54
Hourly Rate	\$46.00	\$36.00	\$29.00	\$26.00	\$30.00	\$45.00	\$44.00	\$36.00	\$26.00	\$47.00	\$30.00	\$25.00	\$22.00	\$18.00	\$25.00	\$25.00	
Direct Labor Cost	\$0.00	\$648.00	\$0.00	\$624.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$300.00	
Totals																	
Dir. Labor	\$1,572																
OH @ 151.32	\$2,379																
Total Labor	\$3,951																
15% Profit	\$593																
Professional Services Total	\$4,543																
Subconsultants	\$0																
Expenses	\$126																
Reimbursable Expenses Total	\$126																
PHASE 006 TOTAL	\$4,669																

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PROJECT COST
HILLSIDE AVENUE BRIDGE 232/066
DECEMBER 14, 2016
Prepared for: City of Berlin

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PHASE 007 - BIDDING SERVICES

Task Description	Lead Struct Eng	Sr. Struct Eng	Staff Struct Eng	Jr Struct Eng	Res. Eng.	Lead Civil Eng	Sr. Civil Eng	Staff Civil Eng	Jr. Civil Eng	Princ. Surv.	Staff Surv. III	Staff Surv. II	Staff Surv I	Surv /Eng Tech.	CADD Tech.	Admin.	Total
Prepare Bidding Documents & Project Manual		2														4	0
Addendum Preparation		8														8	16
Bid Form Creation																	0
Submit Copies of Final Plans to Client & NHDOT																	0
Advertise for Work		2															2
Pre-Bid Meeting		6															6
Manage Bid Process / RFI Response																	0
Bid Opening Meeting		2														2	4
Review Bids / Recommendation of Award		4														8	12
Meet with Client & NHDOT to review Bids		2															2
Prepare Final Contract Documents																6	6
Meet Client & Contractor to sign Contract		2															2
Total - Hours	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	28	50
Hourly Rate	\$46.00	\$36.00	\$29.00	\$26.00	\$30.00	\$45.00	\$44.00	\$36.00	\$26.00	\$47.00	\$30.00	\$25.00	\$22.00	\$18.00	\$25.00	\$25.00	
Direct Labor Cost	\$0.00	\$1,008.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$700.00	
Subconsultants Detail:																	
Dir. Labor	\$1,708																
OH @ 151.32	\$2,585																
Total Labor	\$4,293																
														Total		\$0	
15% Profit	\$644																
Professional Services Total	\$4,936											Expense Detail:		Mileage		\$76	
Subconsultants	\$0													Equipment			
Expenses	\$126													Per Diem			
Reimbursable Expenses Total	\$126													Reprographics			
														Postage		\$50	
														Total		\$126	
PHASE 007 TOTAL	\$5,062																