



CITY OF WASHINGTON, ILLINOIS
Committee of the Whole Agenda Communication

Meeting Date: 9-11-2023

Prepared By: Dennis Carr – City Engineer

Agenda Item: Candlewood Bridge – Repair Engineering

Explanation: Staff requested resumes and work experience from local Civil Engineering firms. We received a handful of packets, but CMT had the strongest proposal due to their work on another historical masonry arch bridge.

Staff has been working with CMT to build a scope and hours estimate to get a set of repair documents together for the Candlewood Bridge. The bridge repair documents will require IDOT review which always increases the cost of projects due to the coordination needed as well as the multiple submittals required.

The Candlewood Bridge is closed to traffic until IDOT approves of a repair. The repair needs to be certified by a Illinois Structural Engineer. If engineering begins now, a repair can likely be done in 2024 with the bridge being reopened in 2024. If the engineering fee needs to be budgeted in 2024, the engineering will shift construction into 2025 with the bridge to reopen in 2025.

Fiscal Impact:

The engineer's estimated fee is proposed to be \$144,840. There is nothing in the budget for this work.

Recommendation: Staff recommends discussion on the future of Candlewood Bridge as well as the timeframe for the engineering and repair.

EXHIBIT A
City of Washington, Illinois
Candlewood Drive over Farm Creek
Bridge Repair Project

SCOPE OF SERVICES

The **Scope of Services** for the proposed project shall consist of providing Illinois Department of Transportation required Phase 1 Planning and Phase 2 Construction documentation for the repair of the existing Candlewood Drive over Farm Creek masonry arch bridge. A detailed breakdown of professional services to be provided and managed by CMT is as follows:

1. Project Management, Meetings and Coordination:

- Coordination with City of Washington team during site evaluation, Phase 1, and Phase 2 documentation.
- Meeting with City of Washington team to discuss recommendations and review comments.

2. Field Survey and Data Collection:

- Topographic survey of the bridge adjacent roadway.
- Hydraulic survey of Farm Creek upstream and downstream of Candlewood Dr.
- Collect existing roadway and structure plan information.
- In-depth bridge inspection.
- Geotechnical borings and structure foundation recommendations by sub consultant.

3. Phase 1 – Bridge Condition Report

- Report detailing the field evaluation and existing structural deficiencies.
- Summary of proposed repair scope of work recommendation and associated estimate of costs.
- Submission to IDOT for approval.

4. Phase 1 – Preliminary Bridge Design and Hydraulic Report

- Creating HEC-RAS models of Farm Creek through Candlewood Dr. bridge.
- Preparing IDOT Bureau of Local Roads form 10210 with required exhibits and hydraulic data.
- Preparing required report exhibits.
- Developing the waterway information table.
- Submission to IDOT for approval.

5. Phase 2 – Prefinal Plans, Specifications and Estimates

Produce construction contract documents to contain:

- Structural analysis and design for repairs.
- Roadway drainage mitigation.
- Structural repairs and creek slope stabilization
- Construction specification
- Estimates of probable construction cost and time.
- Submission to City and IDOT for review.

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SCOPE OF SERVICES

6. Phase 2 – Final Plans, Specifications and Estimates

- Structural load rating submitted to IDOT
- Revise construction documents per City and IDOT comments
- Estimates of probable construction cost and time.
- Submission to City and IDOT.

PROPOSED PROJECT SCHEDULE AND FEE

The total proposed fee for the above-described scope of services is \$145,000.

CMT's services will be performed on a time and materials basis as outlined in the scope above, not to exceed the proposed amount shown with authorization from the City of Washington.

CRAWFORD, MURPHY & TILLY, INC.
 CONTRACT ATTACHMENT - EXHIBIT A - 2023 PROFESSIONAL SERVICES COST ESTIMATE

CLIENT City of Washington
 PROJECT NAME Candlewood Drive over Farm Creek Bridge Repair
 CMT JOB NO. _____

Prep By CJW
 DATE 09/06/23

Approved by _____
 DATE 09/06/23

TASK NO.	TASKS \ CLASSIFICATIONS	MAN HOURS & LABOR SUMMARY																						
		Principal	Proj Mgr II	Proj Eng II	Scientist I	Proj Mgr I	Proj Eng I	Sr. Architect II	Sr. Structural Eng II	Sr. Technician II	Aerial Mapping Specialist	Sr. Eng I	Sr. Structural Eng I	Technical Manager III	Sr. Technician I	Eng I	Arch I	GIS Specialist	Sr. Planner I	Envr Scientist II	Planner I	Envr Scientist I	Proj Admin Assist	Tech Mgr I
	CURRENT YEAR 2023 HOURLY RATES	\$275	\$265	\$230		\$215		\$190		\$185		\$185		\$170		\$165		\$165		\$140		\$120		TOTAL
1	Data Collection											5						5					10	
2	Field Surveys																							
3	Bridge Condition Report					16						20						20					56	
4	Location Design Studies											3						18					21	
5	Preliminary Bridge Design and Hydraulic Report											50						20					70	
6	Geotechnical Studies					2						2											4	
7	TS&L					8						20						20					48	
8	Project Management		6			8						10											24	
9	Pre Final Plans					40						60						80			50		230	
10	Final Plans					16						10						20			8		54	
11	Construction					4						4											8	
12																								
13																								
14																								
15																								
	TOTAL MAN HOURS		6		94						184						183			58			525	
	SUBTOTAL - BASE LABOR EFFORT		\$1,590	\$21,620						\$34,040						\$30,195			\$6,960			\$94,405		
	TASKS (CONTINUED)	TOTAL LABOR EFFORT	DIRECT EXPENSE & REIMBURSABLES										TOTAL EXPENSE	TOTAL FEE										
			TRAVEL MILEAGE	MEALS & LODGING	PRINTING	EQUIP- MENT	MISC	SURVEY MTL	SUBS	SUBS ADMIN	OTHER EXP	OTHER EXP												
1	Data Collection	\$1,750												\$1,750										
2	Field Surveys								\$11,000	\$1,100			\$12,100	\$12,100										
3	Bridge Condition Report	\$10,680											\$10,680	\$10,680										
4	Location Design Studies	\$3,525											\$3,525	\$3,525										
5	Preliminary Bridge Design and Hydraulic Report	\$12,550											\$12,550	\$12,550										
6	Geotechnical Studies	\$830						\$7,000	\$700				\$7,700	\$8,530										
7	TS&L	\$8,840											\$8,840	\$8,840										
8	Project Management	\$5,280											\$5,280	\$5,280										
9	Pre Final Plans	\$39,500											\$39,500	\$39,500										
10	Final Plans	\$9,790											\$9,790	\$9,790										
11	Construction	\$1,660											\$1,660	\$1,660										
12																								
13																								
14																								
15																								
	TOTALS	\$94,405							\$18,000	\$1,800			\$19,800	\$114,205										
	TIME PERIOD OF PROJECT	2023	2024	2025	2026	TOTAL	EST % OF OT HRS INCLUDED ABOVE AVERAGE OVERTIME RATE PREMIUM					100%	MULTI-YEAR + OT											
	PERCENTAGE OF WORK TO BE PERFORMED BY YEAR	30%	70%			100%						15%	MLTPLR & AMT											
	WEIGHTING FACTOR FOR 5% ANNUAL ADJUSTMENT	0.3000	0.7350			1.0350	OT ADJUSTMENT FACTOR					0.1500	1.1850	\$17,465										
	ESTIMATED CONTINGENCY												10%	\$13,170										
	ROUNDING																							
	TOTAL FEE	MATH CROSS CHECK IS OK												\$144,840										