DRAFT

Municipality Lake County Division of Transportation	LOCAL AGENCY	Illinois Department of Transportation	CONSULTANT	Name Engineering Resource Associates
Township Barrington Hills Township				Address 3S701 West Avenue, Suite 150
County Lake County – Division of Transportation		**Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds**		City Warrenville
Section 18-00174-06-BR				State IL

THIS AGREEMENT is made and entered into this _____ day of _____, _____ between the above Local Agency (LA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the improvement of the above SECTION. Non-Motor Fuel Tax Funds, allotted to the LA, ~~by the State of Illinois~~ under the general supervision of the State Department of Transportation, hereinafter called the "DEPARTMENT", will be used entirely ~~or in part~~ to finance ENGINEERING services as described under AGREEMENT PROVISIONS.

Section Description

Name Hart Road

Route CH 80 Length 0.11 Mi. 600 FT (Structure No. 049-3077)

Termini Over Flint Creek

Description:
Phase I and II engineering to replace existing triple cell culvert with a bridge structure on Hart Road over Flint Creek.

Agreement Provisions

The Engineer Agrees,

1. To perform or be responsible for the performance of the following engineering services for the LA, in connection with the proposed improvements herein before described, and checked below:
   - a. ☐ Make such detailed surveys as are necessary for the preparation of detailed roadway plans
   - b. ☐ Make stream and flood plain hydraulic surveys and gather high water data, and flood histories for the preparation of detailed bridge plans.
   - c. ☐ Make or cause to be made such soil surveys or subsurface investigations including borings and soil profiles and analyses thereof as may be required to furnish sufficient data for the design of the proposed improvement. Such investigations are to be made in accordance with the current requirements of the DEPARTMENT.
   - d. ☐ Make or cause to be made such traffic studies and counts and special intersection studies as may be required to furnish sufficient data for the design of the proposed improvement.
   - e. ☐ Prepare Army Corps of Engineers Permit, **Lake County Stormwater Management Commission Permit**, Department of Natural Resources-Office of Water Resources Permit, Bridge waterway sketch, and/or Channel Change sketch, Utility plan and locations, and Railroad Crossing work agreements.
   - f. ☐ Prepare Preliminary Bridge design and Hydraulic Report, (including economic analysis of bridge or culvert types) and high water effects on roadway overflows and bridge approaches.
   - g. ☐ Make complete general and detailed plans, special provisions, proposals and estimates of cost and furnish the LA with **one (1) copy of each document in both hardcopy and electronic format**. Additional copies of any or all documents, if required, shall be furnished to the LA by the ENGINEER at the ENGINEER's actual cost for reproduction.
   - h. ☐ Furnish the LA with survey and drafts in **duplicate** of all necessary right-of-way dedications, construction easement and borrow pit and channel change agreements including prints of the corresponding plats and staking as required.
   - i. ☐ Assist the LA in the tabulation and interpretation of the contractors' proposals.

j. ☐ Prepare the necessary environmental documents in accordance with the procedures adopted by the DEPARTMENT's Bureau of Local Roads & Streets.

k. ☐ Prepare the Project Development Report when required by the DEPARTMENT.

l. ☒ **Services as included and/or defined in the attached Scope of Services**.

2. That all reports, plans, plats and special provisions to be furnished by the ENGINEER pursuant to the AGREEMENT, will be in accordance with current standard specifications and policies **of the LA and** of the DEPARTMENT. It is being understood that all such reports, plats, plans and drafts shall, before being finally accepted, be subject to approval by the LA ~~and the DEPARTMENT~~.

3. To attend conferences at any reasonable time when requested to do so by representatives of the LA ~~or the Department~~.

4. In the event plans or surveys are found to be in error during construction of the SECTION and revisions of the plans or survey corrections are necessary, the ENGINEER agrees that the ENGINEER will perform such work without expense to the LA, even though final payment has been received by the ENGINEER. The ENGINEER shall give immediate attention to these changes so there will be a minimum delay to the CONTRACTOR.

5. That basic survey notes and sketches, charts, computations and other data prepared or obtained by the ENGINEER pursuant to this AGREEMENT will be made available, upon request, to the LA ~~or the DEPARTMENT~~ without cost and without restriction or limitations as to their use.

6. That all plans and other documents furnished by the ENGINEER pursuant to this AGREEMENT will be endorsed by the ENGINEER and will show the ENGINEER's professional seal where such is required by law.

The LA Agrees,

1. To pay the ENGINEER as compensation for all services rendered in accordance with this AGREEMENT according to the following method indicated by a check mark:

   a. ☐ A sum of money equal to _____ percent of the awarded contract cost of the proposed improvement as approved by the DEPARTMENT.

   b. ☐ A sum of money equal to the percent of the awarded contract cost for the proposed improvement as approved by the DEPARTMENT based on the following schedule:

Schedule for Percentages Based on Awarded Contract Cost

Awarded Cost	Percentage Fees
Under $50,000	_____ (see note)
	_____ %
	_____ %
	_____ %

Note: Not necessarily a percentage. Could use per diem, cost-plus or lump sum.

2. To pay for all services rendered in accordance with this AGREEMENT at the actual cost of performing such work plus ** percent to cover profit, overhead and readiness to serve - "actual cost" being defined as material cost plus payrolls, insurance, social security and retirement deductions. Traveling and other out-of-pocket expenses will be reimbursed to the ENGINEER at the ENGINEER's actual cost. Subject to the approval of the LA, the ENGINEER may sublet all or part of the services provided in section 1 of the ENGINEER AGREES. If the ENGINEER sublets all or part of this work, the LA will pay the cost to the ENGINEER plus an additional service charge of up to five (5) percent.

   "Cost to Engineer" to be verified by furnishing the LA ~~and the DEPARTMENT~~ copies of invoices from the party doing the work. The classifications of the employees used in the work should be consistent with the employee classifications for the services performed. If the personnel of the firm, including the Principal Engineer, perform routine services that should normally be performed by lesser-salaried personnel, the wage rate billed for such services shall be commensurate with the work performed. ****See the CECS**

The Total Not-to-Exceed Contract Amount shall be $224,995.20

3. That payments due the ENGINEER for services rendered in accordance with this AGREEMENT will be made as soon as practicable after the services have been performed. ~~in accordance with the following schedule:~~

   a. ~~Upon completion of detailed plans, special provisions, proposals and estimate of cost - being the work required by section 1 of the ENGINEER AGREES - to the satisfaction of the LA and their approval by the DEPARTMENT, 90 percent of the total fee due under this AGREEMENT based on the approved estimate of cost.~~

   b. ~~Upon award of the contract for the improvement by the LA and its approval by the DEPARTMENT, 100 percent of the total fee due under the AGREEMENT based on the awarded contract cost, less any amounts paid under "a" above.~~

   By Mutual agreement, partial payments, ~~not to exceed 90 percent of the amount earned~~, may be made from time to time as the work progresses.

4. That, should the improvement be abandoned at any time after the ENGINEER has performed any part of the services provided for in sections 1 and 3 of the ENGINEER AGREES and prior to the completion of such services, the LA shall reimburse the ENGINEER for the ENGINEER's actual costs plus ** percent incurred up to the time the ENGINEER is notified in writing of such abandonment -"actual cost" being defined as in paragraph 2 of the LA AGREES.

5. That, should the LA require changes in any of the detailed plans, specifications or estimates except for those required pursuant to paragraph 4 of the ENGINEER AGREES, ~~after they have been approved by the DEPARTMENT~~, the LA will pay the ENGINEER for such changes on the basis of actual cost plus ** percent to cover profit, overhead and readiness to serve -"actual cost" being defined as in paragraph 2 of the LA AGREES. It is understood that "changes" as used in this paragraph shall in no way relieve the ENGINEER of the ENGINEER's responsibility to prepare a complete and adequate set of plans and specifications.

****See the CEC\$**

It is Mutually Agreed,

1. That any difference between the ENGINEER and the LA concerning their interpretation of the provisions of this Agreement shall be referred to a committee of disinterested parties consisting of one member appointed by the ENGINEER, one member appointed by the LA and a third member appointed by the two other members for disposition and that the committee's decision shall be final.

2. This AGREEMENT may be terminated by the LA upon giving notice in writing to the ENGINEER at the ENGINEER's last known post office address. Upon such termination, the ENGINEER shall cause to be delivered to the LA all surveys, permits, agreements, preliminary bridge design & hydraulic report, drawings, specifications, partial and completed estimates and data, if any from traffic studies and soil survey and subsurface investigations with the understanding that all such material becomes the property of the LA. The ENGINEER shall be paid for any services completed and any services partially completed in accordance with section 4 of the LA AGREES.

3. That if the contract for construction has not been awarded one year after the acceptance of the plans by the LA ~~and their approval by the DEPARTMENT~~, the LA will pay the ENGINEER the balance of the engineering fee due to make 100 percent of the total fees due under this AGREEMENT, based on the estimate of cost as prepared by the ENGINEER and approved by the LA ~~and the DEPARTMENT~~.

4. That the ENGINEER warrants that the ENGINEER has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER, to solicit or secure this contract, and that the ENGINEER has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, brokerage fee, gifts or any other consideration, contingent upon or resulting from the award or making of this contract. For Breach or violation of this warranty the LA shall have the right to annul this contract without liability.

IN WITNESS WHEREOF, the parties have caused the AGREEMENT to be executed in quintuplicate counterparts, each of which shall be considered as an original by their duly authorized officers.

Executed by the LA:

County of Lake of the
(~~Municipality/Township/~~County)

ATTEST:

State of Illinois, acting by and through its

By _____

County Board

Lake County Clerk

By _____

(Seal)

Title Chair of the County Board

RECOMMENDED FOR EXECUTION

_____
Shane E. Schneider, P.E.
Director of Transportation/County Engineer
Lake County

Executed by the ENGINEER:

Engineering Resource Associates
Engineering Firm
3S701 West Avenue, Suite 150
Street Address
Warrenville, IL 60555
City, State

ATTEST:

By _____

By _____

Title Project Manager

Title President

Note: Three (3) Original Executed Contracts – (2) LCDOT; (1) Consultant

PAYROLL ESCALATION TABLE
ANNIVERSARY RAISES
COST PLUS FIXED FEE

FIRM NAME	Engineering Resource Associates	**DATE**	02/15/19
PRIME/SUPPLEMENT		**PTB NO.**	

CONTRACT TERM	24 MONTHS	**OVERHEAD RATE**	113.86%
START DATE		**COMPLEXITY FACTOR**	
RAISE DATE	ANNIVERSARY	**% OF RAISE**	3.00%

ESCALATION PER YEAR

DETERMINE THE MID POINT OF THE AGREEMENT

12

CALCULATE THE ESCALATION FACTOR TO THE MIDPOINT OF THE CONTRACT

3.00%

The total escalation for this project would be: 3.00%

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PAYROLL RATES

FIRM NAME Engineering Resource As **DATE** 02/15/19
PRIME/SUPPLEMENT
PTB NO.

ESCALATION FACTOR **3.00%**

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
Professional Engineer VI	$70.00	$70.00
Professional Engineer V	$70.00	$70.00
Professional Engineer IV	$65.00	$66.95
Professional Engineer III	$53.00	$54.59
Professional Engineer II	$48.00	$49.44
Professional Engineer I	$40.00	$41.20
Structural Engineer VI	$70.00	$70.00
Structural Engineer III	$60.00	$61.80
Staff Engineer III	$38.00	$39.14
Staff Engineer II	$34.00	$35.02
Staff Engineer I	$32.00	$32.96
Engineering Intern III	$18.00	$18.54
Engineering Intern II	$15.00	$15.45
Engineering Intern I	$14.00	$14.42
Engineering Technician V	$45.00	$46.35
Engineering Technician IV	$38.00	$39.14
Engineering Technician III	$30.00	$30.90
Engineering Technician II	$20.00	$20.60
Engineering Technician I	$15.00	$15.45
Environmental Director	$60.00	$61.80
Environmental Specialist III	$50.00	$51.50
Environmental Specialist II	$40.00	$41.20
Environmental Specialist I	$32.00	$32.96
Professional Surveyor II	$60.00	$61.80
Professional Surveyor I	$50.00	$51.50
Surveyor IV	$32.00	$32.96
Surveyor III	$29.00	$29.87
Surveyor II	$25.00	$25.75
Surveyor I	$18.00	$18.54
GIS/Public Outreach	$32.00	$32.96
Administrative Director	$50.00	$51.50
Administrative Staff IV	$35.00	$36.05
Administrative Staff III	$32.00	$32.96
Administrative Staff II	$25.00	$25.75
Administrative Staff I	$23.00	$23.69

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

FIRM Engineering Resource Associates **DATE** 02/15/19

PTB

PRIME/SUPPLEMENT

OVERHEAD RATE 1.1386

COMPLEXITY FACTOR 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	Outside Direct Costs (F)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
	Early Coordination and Data Collection	16	560.32	637.98	37.70	207.32				1,443.32	0.64%
	Route and Hydraulic Surveys	100	3,378.40	3,846.65	150.80	1,250.01				8,625.85	3.83%
	Geotechnical Subsurface investigation	8	465.56	530.09	37.70	172.26		14,970.00		16,175.60	7.19%
	Utility Identification and Coordination	38	1,367.84	1,557.42		506.10				3,431.36	1.53%
	Bridge Condition Report	80	3,444.32	3,921.70	30.96	1,274.40				8,671.38	3.85%
	Stream Hydraulic Analysis and Report	152	5,784.48	6,586.21	139.12	2,140.26				14,650.07	6.51%
	Environmental Survey	56	2,191.84	2,495.63	24.80	810.98				5,523.25	2.45%
	Preliminary Bridge Analysis & TS&L Drawing	88	3,938.72	4,484.63	7.80	1,457.33				9,888.47	4.39%
	Preliminary Bridge Design and Hydraulic Report	64	2,331.92	2,655.12	145.00	862.81				5,994.85	2.66%
	Permit Coordination	24	1,071.20	1,219.67		396.34				2,687.21	1.19%
	Traffic Management Analysis	32	1,433.76	1,632.48		530.49				3,596.73	1.60%
	Public Involvement	40	1,829.28	2,082.82	363.00	676.83				4,951.93	2.20%
	Right-of-Way and Easement Plats	160	6,633.20	7,552.56	9.60	2,454.28				16,649.65	7.40%
	Meetings and Coordination	76	4,227.12	4,813.00	289.42	1,564.03				10,893.57	4.84%
	Project Administration and Management	32	1,977.60	2,251.70		731.71				4,961.01	2.20%
	Plans, Specifications and Estimate (PS&E)	1048	38,167.68	43,457.72	580.44	14,122.04				96,327.88	42.81%
	Permitting	64	2,373.12	2,702.03	53.26	878.05				6,006.47	2.67%
	Quality Assurance/ Quality Control	16	959.96	1,093.01		355.19				2,408.16	1.07%
	Bidding Assistance/ Phase III Assistance	24	840.48	956.97		310.98				2,108.43	0.94%
	Subconsultant DL					0.00				0.00	0.00%
	TOTALS	2118	82,976.80	94,477.38	1,869.60	30,701.42	0.00	14,970.00	0.00	**224,995.20**	100.00%

DBE 0.00%

DBE

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AVERAGE HOURLY PROJECT RATES

FIRM Engineering Resource Associates

PTB

PRIME/SUPPLEMENT

DATE 02/15/19

SHEET 1 OF 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Early Coordination and Data			Route and Hydraulic Surveys			Geotechnical Subsurface inv			Utility Identification and Coor			Bridge Condition Report		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Professional Engineer VI	70.00	0																	
Professional Engineer V	70.00	0																	
Professional Engineer IV	66.95	0																	
Professional Engineer III	54.59	96	4.53%	2.47							4	50.00%	27.30						
Professional Engineer II	49.44	38	1.79%	0.89															
Professional Engineer I	41.20	6	0.28%	0.12										6	15.79%	6.51			
Structural Engineer VI	70.00	0																	
Structural Engineer III	61.80	238	11.24%	6.94							4	50.00%	30.90				24	30.00%	18.54
Staff Engineer III	39.14	0																	
Staff Engineer II	35.02	592	27.95%	9.79	16	100.00%	35.02							32	84.21%	29.49	56	70.00%	24.51
Staff Engineer I	32.96	744	35.13%	11.58															
Engineering Intern III	18.54	0																	
Engineering Intern II	15.45	0																	
Engineering Intern I	14.42	0																	
Engineering Technician V	46.35	0																	
Engineering Technician IV	39.14	0																	
Engineering Technician III	30.90	24	1.13%	0.35				24	24.00%	7.42									
Engineering Technician II	20.60	0																	
Engineering Technician I	15.45	0																	
Environmental Director	61.80	0																	
Environmental Specialist III	51.50	16	0.76%	0.39															
Environmental Specialist II	41.20	72	3.40%	1.40															
Environmental Specialist I	32.96	56	2.64%	0.87															
Professional Surveyor II	61.80	0																	
Professional Surveyor I	51.50	100	4.72%	2.43				20	20.00%	10.30									
Surveyor IV	32.96	40	1.89%	0.62															
Surveyor III	29.87	80	3.78%	1.13				40	40.00%	11.95									
Surveyor II	25.75	16	0.76%	0.19				16	16.00%	4.12									
Surveyor I	18.54	0																	
GIS/Public Outreach	32.96	0																	
TOTALS		2118	100%	$39.18	16	100%	$35.02	100	100%	$33.78	8	100%	$58.20	38	100%	$36.00	80	100%	$43.05

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AVERAGE HOURLY PROJECT RATES

FIRM Engineering Resource Associates
PTB
PRIME/SUPPLEMENT

DATE 02/15/19

SHEET 2 **OF** 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Stream Hydraulic Analysis and			Environmental Survey			Preliminary Bridge Analysis &			Preliminary Bridge Design and			Permit Coordination			Traffic Management Analysis		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Professional Engineer VI	70.00																		
Professional Engineer V	70.00																		
Professional Engineer IV	66.95																		
Professional Engineer III	54.59	32	21.05%	11.49							8	12.50%	6.82				16	50.00%	27.30
Professional Engineer II	49.44																		
Professional Engineer I	41.20																		
Structural Engineer VI	70.00																		
Structural Engineer III	61.80							32	36.36%	22.47									
Staff Engineer III	39.14																		
Staff Engineer II	35.02	40	26.32%	9.22				56	63.64%	22.29	24	37.50%	13.13				16	50.00%	17.51
Staff Engineer I	32.96	80	52.63%	17.35							32	50.00%	16.48						
Engineering Intern III	18.54																		
Engineering Intern II	15.45																		
Engineering Intern I	14.42																		
Engineering Technician V	46.35																		
Engineering Technician IV	39.14																		
Engineering Technician III	30.90																		
Engineering Technician II	20.60																		
Engineering Technician I	15.45																		
Environmental Director	61.80																		
Environmental Specialist III	51.50				8	14.29%	7.36							8	33.33%	17.17			
Environmental Specialist II	41.20				24	42.86%	17.66							16	66.67%	27.47			
Environmental Specialist I	32.96				24	42.86%	14.13												
Professional Surveyor II	61.80																		
Professional Surveyor I	51.50																		
Surveyor IV	32.96																		
Surveyor III	29.87																		
Surveyor II	25.75																		
Surveyor I	18.54																		
GIS/Public Outreach	32.96																		
TOTALS		152	100%	$38.06	56	100%	$39.14	88	100%	$44.76	64	100%	$36.44	24	100%	$44.63	32	100%	$44.81

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AVERAGE HOURLY PROJECT RATES

FIRM Engineering Resource Associates
PTB
PRIME/SUPPLEMENT

DATE 02/15/19

SHEET 3 **OF** 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Public Involvement			Right-of-Way and Easement P			Meetings and Coordination			Project Administration and Ma			Plans, Specifications and Esti			Permitting		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Professional Engineer VI	70.00																		
Professional Engineer V	70.00																		
Professional Engineer IV	66.95																		
Professional Engineer III	54.59													32	3.05%	1.67			
Professional Engineer II	49.44							38	50.00%	24.72									
Professional Engineer I	41.20																		
Structural Engineer VI	70.00																		
Structural Engineer III	61.80	16	40.00%	24.72				38	50.00%	30.90	32	100.00%	61.80	80	7.63%	4.72			
Staff Engineer III	39.14																		
Staff Engineer II	35.02	24	60.00%	21.01										304	29.01%	10.16			
Staff Engineer I	32.96													632	60.31%	19.88			
Engineering Intern III	18.54																		
Engineering Intern II	15.45																		
Engineering Intern I	14.42																		
Engineering Technician V	46.35																		
Engineering Technician IV	39.14																		
Engineering Technician III	30.90																		
Engineering Technician II	20.60																		
Engineering Technician I	15.45																		
Environmental Director	61.80																		
Environmental Specialist III	51.50																		
Environmental Specialist II	41.20																32	50.00%	20.60
Environmental Specialist I	32.96																32	50.00%	16.48
Professional Surveyor II	61.80																		
Professional Surveyor I	51.50				80	50.00%	25.75												
Surveyor IV	32.96				40	25.00%	8.24												
Surveyor III	29.87				40	25.00%	7.47												
Surveyor II	25.75																		
Surveyor I	18.54																		
GIS/Public Outreach	32.96																		
TOTALS		40	100%	$45.73	160	100%	$41.46	76	100%	$55.62	32	100%	$61.80	1048	100%	$36.42	64	100%	$37.08

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AVERAGE HOURLY PROJECT RATES

FIRM Engineering Resource Associates

PTB

PRIME/SUPPLEMENT

DATE 02/15/19

SHEET 4 **OF** 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Quality Assurance/ Quality Co			Bidding Assistance/ Phase III														
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Professional Engineer VI	70.00																		
Professional Engineer V	70.00																		
Professional Engineer IV	66.95																		
Professional Engineer III	54.59	4	25.00%	13.65															
Professional Engineer II	49.44																		
Professional Engineer I	41.20																		
Structural Engineer VI	70.00																		
Structural Engineer III	61.80	12	75.00%	46.35															
Staff Engineer III	39.14																		
Staff Engineer II	35.02				24	100.00%	35.02												
Staff Engineer I	32.96																		
Engineering Intern III	18.54																		
Engineering Intern II	15.45																		
Engineering Intern I	14.42																		
Engineering Technician V	46.35																		
Engineering Technician IV	39.14																		
Engineering Technician III	30.90																		
Engineering Technician II	20.60																		
Engineering Technician I	15.45																		
Environmental Director	61.80																		
Environmental Specialist III	51.50																		
Environmental Specialist II	41.20																		
Environmental Specialist I	32.96																		
Professional Surveyor II	61.80																		
Professional Surveyor I	51.50																		
Surveyor IV	32.96																		
Surveyor III	29.87																		
Surveyor II	25.75																		
Surveyor I	18.54																		
GIS/Public Outreach	32.96																		
TOTALS		16	100%	$60.00	24	100%	$35.02	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00

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Illinois Department of Transportation

Direct Costs Check Sheet

COMPANY NAME: Engineering Resource Associates

PTB NUMBER: **18-00174-06-BR**

TODAY'S DATE: **1/21/2019**

ITEM	ALLOWABLE	UTILIZE W.O. ONLY	QUANTITY J.S. ONLY	CONTRACT RATE	TOTAL
Per Diem (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum			$0.00	$0.00
Lodging (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual cost (Up to state rate maximum)			$0.00	$0.00
Lodging Taxes and Fees (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual cost			$0.00	$0.00
Air Fare	Coach rate, actual cost, requires minimum two weeks' notice, with prior IDOT approval			$0.00	$0.00
Vehicle Mileage (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum	x	889	$0.580	$515.62
Vehicle Owned or Leased	$32.50/half day (4 hours or less) or $65/full day			$0.00	$0.00
Vehicle Rental	Actual cost (Up to $55/day)			$0.00	$0.00
Tolls	Actual cost			$0.00	$0.00
Parking	Actual cost			$0.00	$0.00
Overtime	Premium portion (Submit supporting documentation)			$0.00	$0.00
Shift Differential	Actual cost (Based on firm's policy)			$0.00	$0.00
Overnight Delivery/Postage/Courier Service	Actual cost (Submit supporting documentation)			$0.00	$0.00
Copies of Deliverables/Mylars (In-house)	Actual cost (Submit supporting documentation)	X	1	$1,353.98	$1,353.98
Copies of Deliverables/Mylars (Outside)	Actual cost (Submit supporting documentation)			$0.00	$0.00
Project Specific Insurance	Actual cost			$0.00	$0.00
Monuments (Permanent)	Actual cost			$0.00	$0.00
Photo Processing	Actual cost			$0.00	$0.00
2-Way Radio (Survey or Phase III Only)	Actual cost			$0.00	$0.00
Telephone Usage (Traffic System Monitoring Only)	Actual cost			$0.00	$0.00
CADD	Actual cost (Max $15/hour)			$0.00	$0.00
Web Site	Actual cost (Submit supporting documentation)			$0.00	$0.00
Advertisements	Actual cost (Submit supporting documentation)			$0.00	$0.00
Public Meeting Facility Rental	Actual cost (Submit supporting documentation)			$0.00	$0.00
Public Meeting Exhibits/Renderings & Equipment	Actual cost (Submit supporting documentation)			$0.00	$0.00
Recording Fees	Actual cost			$0.00	$0.00
Transcriptions (specific to project)	Actual cost			$0.00	$0.00
Courthouse Fees	Actual cost			$0.00	$0.00
Storm Sewer Cleaning and Televising	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Traffic Control and Protection	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Aerial Photography and Mapping	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Utility Exploratory Trenching	Actual cost (Requires 2-3 quotes with IDOT approval)			$0.00	$0.00
Testing of Soil Samples*	Actual cost			$0.00	$0.00
Lab Services*	Actual cost (Provide breakdown of each cost)			$0.00	$0.00
Equipment and/or Specialized Equipment Rental*	Actual cost (Requires 2-3 quotes with IDOT approval)			$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	$0.00
				$0.00	$0.00
				$0.00	$0.00
				$0.00	$0.00
TOTAL DIRECT COST					**$1,869.60**

**If other allowable costs are needed and not listed, please add in the above spaces provided.*

LEGEND

W.O. = Work Order

J.S. = Job Specific

Hart Road over Flint Creek
Lake County Division of Transportation
Section 18-00174-06-BR
Locally Funded
Existing Structure No. SN 049-3077

HART ROAD CULVERT REPLACEMENT
DIRECT COSTS

		8 1/2" x11" B&W	$0.06
		8 1/2" x11" Color	$1.00
PRINTING COSTS	Plan Sheets = 69	11" x 17" B&W	$0.12
	Specifications sheets = 120	11" x 17" Color	$3.90
	Mylar Sheets = 3	22"x 34" B&W	$0.60
		22"x 34" Color	$9.00
	2019 Mileage Rate = $0.58	22"x 34" Mylar	$4.00

TASK 1 - EARLY COORDINATION AND DATA COLLECTION

Task	No. of Visits	Mileage (round trip)	Cost
Initial Site meeting	1	65	$37.70
		TASK 1 TOTAL =	**$37.70**

TASK 2 -ROUTE AND HYDRAULIC SURVEYS

Task	No. of Visits	Mileage (round trip)	Cost
Survey Truck	4	65	$150.80
	260		**$150.80**
		TASK 2 TOTAL =	**$150.80**

TASK 3 -GEOTECHNICAL SUBSURFACE INVESTIGATION

Task	No. of Visits	Mileage (round trip)	Cost
Site meeting w/ MSET	1	65	$37.70
		65	**$37.70**
		TASK 3 TOTAL =	**$37.70**

TASK 5 -BRIDGE CONDITION REPORT

District 1 Submittal

PLANS	NO. OF COPIES	Cost/ sheet	No. of Sheets	Cost
BBS Package	3	$0.06	40	$7.20
	3	$0.12	6	$2.16
	3	$0.60	12	$21.60
				$30.96
		TASK 5 TOTAL =		**$30.96**

TASK 6 -STORMWATER REPORT (FOR PERMITTING)

IDNR	STORMWATER REPORT	NO. OF COPIES	No. of Sheets	Cost
	8 1/2" x11" B&W	2	25	$3.00
	8 1/2" x11" Color	2	25	$50.00
Plan set	11" x 17" B&W	2	69	$16.56
				$69.56

LAKE COUNTY SMC	STORMWATER REPORT	NO. OF COPIES	No. of Sheets	Cost
	8 1/2" x11" B&W	2	25	$3.00
	8 1/2" x11" Color	2	25	$50.00
Plan set	11" x 17" B&W	2	69	$16.56
				$69.56

** INCLUDES 1 RESUBMITTAL*

TASK 6 TOTAL = $139.12

8 1/2" x11" Color $1.00

TASK 7 -ENVIRONMENTAL SURVEY

EXHIBITS	SIZE OF PLANS	NO. OF PAGES	Cost
MAP EXHIBITS	11" x 17" Color	2	$7.80
WETLAND MAPS	8 1/2" x11" Color	2	$2.00
PHOTOS	8 1/2" x11" Color	15	$15.00
			$24.80

TASK 7 TOTAL = $24.80

TASK 8 - PRELIMINARY BRIDGE ANALYSIS & TS&L DRAWING

District 1 Submittal

PLANS	NO. OF COPIES	Cost/ sheet	No. of Sheets	Cost
BBS Package/ District	4	$0.12	3	$1.44
Hydraulic Report		(included below)		$0.00
Structural Geotechnical Report	4	$0.06	20	$4.80
				$6.24

LCDOT Copy

BBS Package	1	$0.12	3	$0.36
Hydraulic Report		(included below)		$0.00
Structural Geotechnical Report	1	$0.06	20	$1.20
				$1.56

TASK 8 TOTAL = $7.80

TASK 9 - PRELIMINARY BRIDGE DESIGN AND HYDRAULIC REPORT

HYDRAULIC REPORT	NO. OF COPIES	No. of Sheets	Cost
8 1/2" x11" B&W	5	100	$30.00
8 1/2" x11" Color	5	20	$100.00
11" x 17" B&W	5	25	$15.00
11" x 17" Color	5	5	$97.50
		150	**$145.00**

** INCLUDES RESUBMITAL*

TASK 9 TOTAL = $145.00

TASK 12 - PUBLIC INVOLVEMENT

HYDRAULIC REPORT	NO. OF COPIES	No. of Sheets	Cost
Letter Size Copies	8 1/2" x11" B&W	1	300	$18.00
Color Copies	8 1/2" x11" Color	1	300	$300.00
Display Boards	22"x 34" Color	1	5	$45.00
			605	**$363.00**

TASK 12 TOTAL = $363.00

TASK 13 -RIGHT OF WAY AND EASEMENT PLATS (QA REVIEW)

District 1 Submittal

PLANS	NO. OF COPIES	Cost/ sheet	No. of Sheets	Cost
QA Review	4	$0.60	4	$9.60
				$9.60

TASK 13 TOTAL = $9.60

8 1/2" x11" Color $1.00

TASK 14 - MEETINGS AND COORDINATION

Task	No. of Visits	Mileage (round trip)	Cost
Public Meeting	1	65	$37.70
Pre-application meeting/ Plans in Hand	1	105	$60.90
Public Involvement Meeting	1	65	$37.70
Progress Meetings	2	105	$121.80
District 1 IDOT Meeting	1	54	$31.32
		499	**$289.42**
		TASK 14 TOTAL =	**$289.42**

TASK 16 - PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

PRE-FINAL SUBMITTAL

PLANS	SIZE OF PLANS	NO. OF COPIES	Cost	SIZE OF PLANS	NO. OF COPIES	Cost
IDOT BLR	11" x 17" B&W	7	$57.96	-		$0.00
UTILITIES	11" x 17" B&W	2	$16.56	22"x 34" B&W	1	$41.40
OTHER AGENCIES	11" x 17" B&W	2	$16.56	-		$0.00
INTERNAL QA REVIEW	11" x 17" B&W	2	$16.56	-		$0.00
MLCSWCD	-	-	$0.00	22"x 34" B&W	1	$41.40
USACOE	-	-	$0.00	22"x 34" B&W	1	$41.40
			$107.64			**$124.20**

SPECIAL PROVISIONS

PLANS	SIZE OF PLANS	NO. OF COPIES	Cost
IDOT	8 1/2" x11" B&W	7	$50.40
OTHER AGENCIES	8 1/2" x11" B&W	2	$14.40
INTERNAL QA REVIEW	8 1/2" x11" B&W	2	$14.40
			$79.20
		Pre-final Printing Cost =	**$311.04**

FINAL SUBMITTAL

PLANS	SIZE OF PLANS	NO. OF COPIES	Cost	SIZE OF PLANS	NO. OF COPIES	Cost
IDOT BLR	11" x 17" B&W	2	$16.56	22"x 34" B&W	1	$41.40
LCDOT	11" x 17" B&W	1	$8.28	-	-	$0.00
UTILITIES	11" x 17" B&W	3	$24.84	-	-	$0.00
OTHER AGENCIES	11" x 17" B&W	2	$16.56	-	-	$0.00
INTERNAL QA REVIEW	11" x 17" B&W	2	$16.56	-	-	$0.00
MLCSWCD	-	-	$0.00	22"x 34" B&W	1	$41.40
USCOE	-	-	$0.00	22"x 34" B&W	1	$41.40
			$82.80			**$124.20**

PLANS	SIZE OF PLANS	NO. OF COPIES	Cost
IDOT BLR	22"x 34" Mylar	1	$12.00
LCDOT	-	-	$0.00
UTILITIES	-	-	$0.00
OTHER AGENCIES	-	-	$0.00
INTERNAL QA REVIEW	-	-	$0.00
MLCSWCD	-	-	$0.00
USCOE	-	-	$0.00
			$12.00

8 1/2" x11" Color $1.00

SPECIAL PROVISIONS

PLANS	SIZE OF PLANS	NO. OF COPIES	Cost
IDOT	8 1/2" x11" B&W	3	$21.60
OTHER AGENCIES	8 1/2" x11" B&W	2	$14.40
INTERNAL QA REVIEW	8 1/2" x11" B&W	2	$14.40
			$50.40

Final Printing Cost = $269.40

TASK 16 TOTAL = $580.44

TASK 17 - PERMITTING

	USACOE REPORT	NO. OF COPIES	No. of Sheets	Cost
	8 1/2" x11" B&W	1	35	$2.10
	8 1/2" x11" Color	1	25	$25.00
	11" x 17" B&W	1	10	$1.20
			70	**$28.30**

	MCHENRY-LAKE SWCD REPORT	NO. OF COPIES	No. of Sheets	Cost
	8 1/2" x11" B&W	1	2	$0.12
PLAN SET	11" x 17" B&W	3	69	$24.84
			71	**$24.96**

TASK 17 TOTAL = $53.26

HART ROAD CULVERT REPLACEMENT - DIRECT COST SUMMARY

Printing Costs $1,353.98
Mileage = $515.62 *889 miles*

Total = **$1,869.60**

Hart Road over Flint Creek
Lake County Division of Transportation
Section 18-00174-06-BR
Locally Funded
Existing Structure No. SN 049-3077

HART ROAD CULVERT REPLACEMENT
MANHOUR SUMMARY (WITH SUBS)

		Total Manhours	ERA	MSET
Task 1 - Early Coordination and Data Collection				
Review of existing Data		6	6	0
Prepare Photo Log		2	2	0
Site Visit		4	4	0
Review of Sub-consultant Tile Investigation		4	4	0
	Subtotal	16	16	0
Task 2 - Route and Hydraulic Surveys				
Topographic Survey and Hydraulic Survey		76	76	0
Base Map		24	24	0
	Subtotal	100	100	0
Task 3 - Geotechnical Subsurface Investigation				
Structural Borings		30	0	30
Roadway (Subgrade) Borings		10	0	10
Pavement Cores		8	0	8
Laboratory Testing		8	0	8
Coordination		4	0	4
Potentially Impacted Property (PIP) Evaluation		8	0	8
Traffic Control		16	0	16
Geotechnical Report		49.5	8	41.5
	Subtotal	133.5	8	125.5
Task 4 - Utility Identification and Coordination				
Design Locate Request		8	8	0
Utility Documentation		24	24	0
Follow up letters		6	6	0
	Subtotal	38	38	0
Task 5 - Bridge Condition Report				
Bridge Alternatives		40	40	0
Bridge Condition Report		40	40	0
	Subtotal	80	80	0
Task 6 - Stream Hydraulic Analysis and Report				
Field review and Data Collection		18	18	0
Floodplain Impacts		32	32	0
Modeling Analysis/ Scour Analysis		48	48	0
Hydraulic Report		54	54	0
	Subtotal	152	152	0
Task 7 - Enivronmental Survey				
Environmental Survey Request		12	12	0
Wetland Impact Evaluation		32	32	0
Special Waste Assessment		12	12	0
	Subtotal	56	56	0
Task 8 - Preliminary Bridge Analysis & Type, Size & Location Drawing (TS&L)				
Develop Design Parameters		8	8	0
Preliminary Bridge Design		32	32	0
Type, & Size Location Drawing(s)		48	48	0
	Subtotal	88	88	0

Manhours Summary (subs)

Hart Road over Flint Creek
Lake County Division of Transportation
Section 18-00174-06-BR
Locally Funded
Existing Structure No. SN 049-3077

HART ROAD CULVERT REPLACEMENT
MANHOUR SUMMARY (WITH SUBS)

		Total Manhours	ERA	MSET
Task 9 - Preliminary Bridge Design and Hydraulic Report				
Compile Bridge Package		48	48	0
Address Comments and Resubmit		16	16	0
	Subtotal	64	64	0
Task 10 - Permit Coordination				
Coordinate pre-application meeting		24	24	0
	Subtotal	24	24	0
Task 11 - Traffic Management/ Barrier Warrant Analysis				
Barrier Warrant Analysis		16	16	0
Detour Analysis		8	8	0
Coordinate Detour Committee Meeting		1	1	0
Formal Detour Report		7	7	0
	Subtotal	32	32	0
Task 12 - Public Involvement				
Public Meeting & contributing Exhibits		24	24	0
Stakeholder and impacted property coordination		16	16	0
	Subtotal	40	40	0
Task 13 - Right-Of -Way and Easements Plats				
Title Commitments		8	8	0
Legal Descriptions		32	32	0
Monument reconnaissance		40	40	0
Plat-of-Highway		80	80	0
	Subtotal	160	160	0
Task 14 - Meetings and Coordination				
Project Initiation		8	8	0
Project Site Meeting		8	8	0
Pre-final Field Meeting		8	8	0
(2) Coordination Meetings		16	16	0
(1) Public Meeting		8	8	0
(1) Application Meeting		16	16	0
(1) Detour Committee		4	4	0
Distribute meeting minutes		8	8	0
	Subtotal	76	76	0
Task 15 - Project Administration and Management				
Project setup, Progress reports, Coordination, Schedule updates, QA/QC Pla		32	32	0
	Subtotal	32	32	0
Task 16 - Plans, Specifications and Estimate (PS&E)				
Plans		964	964	0
Specifications		40	40	0
Cost Estimates		40	40	0
Estimate of Time		4	4	0
	Subtotal	1048	1048	0

Manhours Summary (subs)

Hart Road over Flint Creek
Lake County Division of Transportation
Section 18-00174-06-BR
Locally Funded
Existing Structure No. SN 049-3077

HART ROAD CULVERT REPLACEMENT
MANHOUR SUMMARY (WITH SUBS)

		Total Manhours	ERA	MSET
Task 17 - Permitting				
Follow-up on permits		8	8	0
Plan/ Report Submittals & Coordination		56	56	0
	Subtotal	64	64	0
Task 18 - Quality Assurance/ Quality Control				
QA/QC Review		12	12	0
Constructability Review		4	4	0
	Subtotal	16	16	0
Task 19 - Biding Assistance				
Responding to RFIs/ Shop Drawing review		24	24	0
	Subtotal	24	24	0

Hart Road over Flint Creek
Lake County Division of Transportation
Section 18-00174-06-BR
Locally Funded
Existing Structure No. SN 049-3077

HART ROAD CULVERT REPLACEMENT
MANHOUR SUMMARY PER SHEET

ITEM	# OF SHEETS	MH PER SHEET	TOTAL MH'S	
Cover Sheet	1	4	4	
Index of Sheets, Highway Stds	1	4	4	
General Notes	1	8	8	
Summary of Quantities	3	24	72	
Typical Sections	1	16	16	
Schedule of Quantities	10	8	80	
Alignment, Ties and Benchmarks	1	8	8	
Temporary Detour Plan	2	12	24	
Traffic Control Plan	3	12	36	
Existing Conditions and Removal Plan	2	10	20	
Plan and Profile Sheets	2	10	20	
Erosion and Sediment Control Plan	4	12	48	
Grading Plan	1	12	12	
Streambank Stabilization	1	16	16	
Plat of Highways	-	-	-	*(already accounted for)*
Pavement Marking and Landscaping Plan	1	16	16	
Structural Plan Sheets and Details	22	-	468	
Cross Sections	3	24	72	
LCDOT Standard Details	5	4	20	
IDOT Highway Standard Details	5	4	20	
	69		**964**	

Structural Plans	# OF SHEETS	MH PER SHEET	TOTAL MH'S
General Plan & Elevation	1	16	16
General Data	1	6	6
Top of slab Elevations	2	24	48
Top of Approach Slab Elevations	1	24	24
Superstructure	1	24	24
Superstructure Details	1	32	32
Bridge aesthetics	1	12	12
Diaphragms	1	16	16
Bridge Approach Slab Details	2	24	48
Steel Railing Details	2	24	48
Framing Plan	1	24	24
Beam Details	2	32	64
Abutments	3	32	96
Pile Details	1	4	4
Soil Boring Logs	2	2	4
Existing Plans	1	2	2
	23		**468**

Route	Hart Road over Flint Creek
Local Agency	Lake County Division of Transportation
Section	18-00174-06-BR
Type of Funding	Locally Funded
Existing Structure No.	SN 049-3077

PHASE I AND II ENGINEERING FOR THE REPLACEMENT
OF THE
HART ROAD OVER FLINT CREEK
S.N. 049-3077

LAKE COUNTY DIVISION OF TRANSPORTATION

SCOPE OF SERVICES

The Lake County Division of Transportation (hereafter referred to as the Local Public Agency (LPA)) has initiated a project requiring professional engineering services by Engineering Resource Associates, Inc. (ERA)(Engineer)for the Preliminary and Final Engineering (Phase I and II) for the replacement of the existing triple cell culvert with a bridge structure on Hart Road over Flint Creek.

UNDERSTANDING OF THE PROJECT

Existing Bridge. The existing Hart Road culvert is a triple-cell 132" span by 96" rise Corrugated Metal Pipe (CMP) culvert structure serving a tributary of Flint Creek located approximately 0.3 miles north of Lake-Cook Road, in Barrington, Illinois. The existing culvert has a fill depth of 3-feet. The culvert has an out-to-out width of 40'-0" and a skew of 0-degrees. The culvert was built in 1978, and the design loading is unknown.

Sufficiency Rating. According to the Illinois Department of Transportation's Master Structure Report, the bridge has a Sufficiency Rating of 97.6 which is above the 50 threshold for replacement which led to the decision to use local funding. The Sufficiency Rating is a numerical value used to evaluate data of the culvert by calculating four different factors: structural adequacy and safety; serviceability and functional obsolescence; essentiality for public use; and special reduction factors.

Roadway Functional Class. The IDOT Master Structure Report also indicates that the roadway functional class is Major Collector with a current 2018 AADT of 9600 vehicles and the speed limit is 40 mph. The anticipated rehabilitated roadway will have a 2-lane, 12-foot wide lanes and 4-foot shoulder on the west side plus 4-foot aggregate shoulder and a 3-ft shoulder and curb on the east (LC4001 Typical 2 Lane section with Adjacent Multi-use path). The design will be in general conformance to criteria, guidelines, and standards presented in the *BLRS Manual*.

Preliminary Bridge Design. The bridge design will adhere to the requirements of Chapter 36 – Bridge/Structure Design of the *IDOT BLRS Manual* and the *IDOT Bridge Manual*. It is assumed the bridge will accommodate two (2) lanes of traffic and shoulders on both sides and a possible bike path on the east side.

At a minimum, the bridge hydraulic opening will be designed for the 30-year flood event and provide for a minimum one (1) foot of freeboard to the low point of the bridge superstructure. Additionally, we will discuss with the County structural design options/ cost to meet the 100-year flood elevation with 1-foot of freeboard.

Roadway Improvements. Anticipated improvements to the roadway approaching the bridge include, but are not limited to, approach paving, shoulder reconstruction, pavement markings, maintenance of traffic, erosion control and ditch and drainage design. A barrier warrant analysis report will be prepared and submitted to the LPA. Scope will investigate whether the west side slopes

can be revised to remove some length of guardrail on the west side. The geometric design criteria for a urban two-lane collector will be reasonably assumed for this Scope of Services.

Environmental Impact Classification. For purposes of this *Scope of Services*, it is assumed that the project will be classified as a Federal Approved Categorical Exclusion, (Formerly CE Group II) according to Chapter 23 of the *IDOT BDE Manual*. An Environmental Assessment (EA) is not anticipated and is not included in this *Scope of Services*.

Stakeholders. This project anticipates coordination with the following stakeholders, agencies and utilities:

- Lake County Division of Transportation (LPA)
- Illinois Department of Transportation District 1
  - Bureau of Local Roads and Streets
  - Local Bridge Unit
  - Bureau of Traffic
- Illinois Department of Transportation – Bureau of Bridges and Structures
- Illinois Department of Natural Resources (IDNR)
- Village of Barrington
- Lake County Stormwater Management Commission
- The United States Army Corps of Engineers – Chicago District
- Identified utility companies
- Barrington Fire Protection District
- School District 220
- Federal Emergency Management Agency (FEMA)
- US Fish & Wildlife

Summary. The *Scope of Services* for the Phase I engineering involves a comprehensive preliminary engineering study. Included in this Phase I scope will be a Bridge Condition Report (BCR), wetland delineation and Wetland Impact Analysis (WIE), stream hydraulic analysis, Preliminary Bridge Design & Hydraulic Report (PBDHR) including Type, Size and Location drawing(s) (TS&L), a comprehensive subsurface geotechnical investigation, permitting coordination, survey that includes topographic, stream, wetland and right-of-way survey is also included. Plats and legal descriptions are also included. The scope of Services for Phase II engineering involves the development of construction documents, permitting and bidding assistance.

TASK 1 – EARLY COORDINATION AND DATA COLLECTION

During the Phase I process, the Engineer will coordinate with local agencies and verify project pertinent data.

Review of Existing Data. Available information from LPA will be obtained and reviewed that will include existing right-of-way and property limit data, existing roadway and bridge plans from the LPA, LPA-based GIS digital topographic survey data, LPA-based GIS aerial photography and any existing maintenance and flooding records.

Prepare Photo Log. Photograph the features of the project site and prepare a photo log.

Site Visit. Staff will visit the site to familiarize themselves with the existing topography and assessment of existing site issues. These conditions will be documented for consideration when designing the roadway and bridge improvements.

TASK 2 – ROUTE AND HYDRAULIC SURVEYS

Preliminary design and stream surveys will be required to properly document existing field conditions that will serve as the basis for the preliminary engineering and design in this phase.

Horizontal and Vertical Control.

- Horizontal control will be based on Lake County's Design survey procedures and Geodetic Monuments jointly established by the Lake County Division of Transportation and the Illinois Department of Transportation. These coordinates are referenced to NAD 83. All survey data shall be collected in Illinois State Plane Coordinates – East Zone.
- Vertical control will be based on Lake County Benchmarks (http://gis.lakeco.org/maps/) based on NAVD 88. Acceptable benchmark examples are, spikes in poles, bolts on fire hydrant rings, and concrete foundations. The correlation of the nearest Elevation Reference Marks that have been established in the FEMA Flood Insurance Study (FIS) and Flood Insurance Rate Maps with NGVD 88 datum will be referenced.
- Survey and deliverables will follow the LCDOT Design Survey procedures (dated 10/19/18) and is included at the end of the contract.

Topographic Survey.

- The topographic survey will consist of a survey of the culvert and site within the project limits. This survey will include benchmarks with references, visible utilities, driveways and field entrances, drainage structures, landscaping elements including significant trees 6" in diameter or greater (diameter at breast height), fences, pavement location and type.
- Roadway cross sections will be taken at 50-foot intervals for approximately 500 feet on either side of the Hart Road Bridge. Additional survey will be taken on the west side only extending to the end of the guardrail (approximately 1,100-ft south of the culvert). These cross sections shall identify the right-of-way, centerline of the roadway, edges of pavement, edges of shoulders, visible structures and the slope of the embankment on each side. Survey limits will extend to the proposed ROW or construction limits plus additional 10-ft except for the creek. See Hydraulic survey for additional survey for streambank stabilization.
- The services will include the survey of the wetland boundaries as delineated by the Engineer.
- Geotechnical soil boring locations and elevations (as outlined in Task 3) will be located and surveyed by the Engineer.

Existing Right-of-way.

- Monument Reconnaissance will be performed in the field to find the physical monumentation to determine the existing right-of-way of Hart Road. LPA will provide documentation of the existing Right of Way.

Hydraulic Survey. A stream survey will be conducted. This stream survey will follow the current guidelines of the *Illinois Department of Transportation's Drainage Manual* for the development of the hydraulic model.

- Hart Road Culvert (SN 049-3077) stream cross sections upstream and downstream at intervals of approximately 50 feet, 500 feet and 1,000 feet along the ditch (east and west of the culvert).
- Within 50 feet upstream and downstream of the bridge structure, additional topographic features will be surveyed and as directed by the drainage engineer. This will occur at the culvert.
- Stream bank stabilization for the east side will consist of cross sections every 50-ft for the 300-ft taken to the limits of the floodway.
- Critical low openings of adjoining structures within the project limits will be located with elevations.

- Streambed profile will be surveyed at 50' intervals within a lateral distance of 250' upstream and downstream of the Hart Road structure.
- Waterway opening sketches upstream and downstream will be prepared for the Hart Road structure.
- The vertical and horizontal limits of the cross-section elevations will be 1 foot above the anticipated 100-year floodplain elevation.
- The anticipated 100-year floodplain limits will be obtained from Regulatory Floodplain Mapping. Survey datum shall be the same as outlined in Horizontal and Vertical Control.
- Existing Condition Base Plans. This task includes drafting the survey data.

TASK 3 – GEOTECHNICAL SUBSURFACE INVESTIGATION

Midland Standard Engineering & Testing, Inc. will serve as a sub-consultant to the Engineer to perform structure borings, soil borings and pavement cores and provide design recommendations. Geotechnical work and report will conform to the requirements of the *IDOT Geotechnical Manual*.

Structure Borings. Two (2) structure borings and one (1) scour boring are to be performed for the geotechnical investigation.

- Two (2) borings will be located diagonally across the culvert. Per IDOT requirements the depth will be taken to the 500-kip Nominal Driven Bearing (estimated at 65-ft).
- One (1) streambed scour boring (15-ft) will be taken as close as possible to the edge of the creek.

Roadway (Subgrade) Borings. Two (2) roadway borings drilled to a depth of 10 feet are to be performed for the geotechnical investigation to determine groundwater and soil conditions for the reconstruction of the existing roadway.

Pavement Cores. Two (2) pavement cores will be taken to identify the existing pavement materials and thickness and to determine the properties of the underlying aggregate and soil.

Laboratory Testing. The scope will include per AASHTO/ASTM guidelines testing for soil index, particle size distribution, Atterberg limits, soil settlement, shear strength of soil and soil classification.

Coordination. The Engineer anticipates and has allotted for one (1) field meeting with the geotechnical firm to layout and coordinate final location of bridge and roadway cores and borings.

Potentially Impacted Property (PIP) Evaluation. Soil testing (including pH) will be performed to determine if there are areas for special waste disposal and satisfy the Clean Construction or Demolition Debris (CCDD) requirements. This includes the preparation of the LPC 662 form and LPC 663 as required.

Traffic Control. The geotech sub-consultant's scope of service will include all necessary traffic control and flagman required to complete their subsurface drilling and testing operations. They will also be responsible for acquiring any required permits from the Township.

Geotechnical Report. A Geotechnical Report will be prepared to document the findings used in the development of the project. Geotechnical borings and partial report will be included as part of the Preliminary Bridge Design and Hydraulic Report (PBDHR) submittal (Task 9). An electronic copy of the final report will be provided to the LPA for their records.

TASK 4 – UTILITY IDENTIFICATION AND COORDINATION

Utility Investigation. Pertinent utility information will be collected for the project area to determine locations of all utilities that may or will affect design or construction of the bridge. Coordination with utilities and a JULIE Design Stage Request for buried facilities will be performed and documented.

- A J.U.L.I.E. Design Locate Request will be submitted.
- During the preliminary design, the Engineer will prepare and send utility notification letters to identified utility companies.
- The Engineer will compile and summarize available utility information in a spreadsheet per the formatting requirements for Phase II utility documentation.
- Information provided by utility companies will be reviewed and incorporated into the base drawing.
- Follow up letters with preliminary plan sheets showing potential conflicts will be sent to utility companies to further advance relocation coordination
- Electronic copies of all information received or provided to the utility companies will be sent to the LPA for their records.
- During prefinal design - Notify and coordinate the proposed improvements with utility companies. Review proposed utility relocation plans with proposed improvement to identify any potential conflicts.

TASK 5 – BRIDGE CONDITION REPORT

A Culvert inspection will be performed to assess the current condition of the culvert and provide the data for an abbreviated Bridge Condition Report (BCR). The bridge inspection and Bridge Condition Report will conform to the requirements of the IDOT *Bridge Condition Report Procedures & Practices*, the IDOT *Bridge Manual*, the IDOT *BLRS Manual* and National Bridge Inspection Standards (NBIS) standards.

- Delamination sketches of the existing culvert provided in the BCR will be based on the latest NBIS inspection (March 2018).
- The Bridge Condition Report (BCR) will be written to document the current physical condition and functionality of the culvert and recommend culvert rehabilitation or bridge replacement for approval. The BCR will be prepared under the supervision of an Illinois Licensed Structural Engineer.
- The findings of the preliminary bridge design and analysis will be presented in BCR for the LPA's selection of a preferred alternative. Three (3) alternatives will be considered for the BCR and will include exhibits, tables and preliminary cost estimates as supporting information. This task will also look at the bridge aesthetics and discuss options like parapet form liner, staining and decorative railing for pedestrians.
- The BCR will be submitted to IDOT for review and concurrence of the proposed scope of improvements. An electronic copy of the final report and BCR approval will be provided to the LPA for their records.

TASK 6 – STREAM HYDRAULIC ANALYSIS AND REPORT

The Engineer will prepare the stream hydrology/hydraulic analysis and hydraulic report for calculating a bridge size which meets IDOT and regulatory requirements. *The report will only be required for a full bridge replacement or superstructure replacement that changes the existing bridge opening.* Tasks include:

- Field review and data collection for the project will be performed including field inspection and field interviews.
- LPA will request the hydraulic model from the Village. ERA will review the model and update based on the surveyed stream cross sections, structure information, existing conditions, natural conditions, and proposed conditions hydraulic models. The results of the analysis will be used in developing the waterway information table.
- A review of existing FEMA and USGS records will be conducted.
- Impacts to the floodplain will be determined and the need for compensatory storage.
- A HEC-18 scour analysis will be performed.
- The Hydraulic Report will contain the following:
    - Location Map
    - Permit Summary for Floodway Construction in Northeastern Illinois (D1 PD0024)
    - Narrative – Description of work that includes flooding history, correlation of datum, discussion of hydraulic analysis, description of area and sensitive flood receptor considerations
    - FIS Datum Correlation with Survey
    - Preliminary Bridge Design & Hydraulic Report (Form BLR 10210)
    - Hydraulic Report Data Sheets
    - Waterway Information Table (WIT)
    - Stream Profile & Cross Sections
    - Plan & Profile of roadway
    - FIRM Map excerpt
    - Floodway and floodplain fill and compensatory storage calculations
    - Modeling Calculations
    - HGL for 10, 30, 50 and 100-Year events

The hydraulic report will be submitted to IDOT as an attachment to the Preliminary Bridge Design and Hydraulic Report (PBDHR). An electronic copy of the final report will be provided to the LPA for their records.

TASK 7 – ENVIRONMENTAL SURVEY

Wetland Delineation and Report. Anticipated safety improvements and project improvements may require widening of the roadway shoulders and modifications or replacement of the existing bridge. This work may create fill in the floodplain, therefore a wetland assessment and report will be required. The Engineer will perform the following tasks regarding the wetlands:

- Obtain preliminary information including aerial photos, wetland maps, USGS, soils mapping, FEMA map, hydrologic atlas, and other data necessary for the wetland delineation.
- Conduct wetland delineation based on methodology approved by USACE and accepted by the LPA.
- Field stake perimeter of wetlands.
- Prepare wetland report, including resource evaluation, support data, and graphics.

Environmental Survey Request. The Environmental Survey Request (ESR) will be prepared and submitted electronically for the project. The scope will include preparation of ESR attachments (BLRS Manual Section 20-2).

Wetland Impact Evaluation. Based on the existing wetland information and proposed project improvements, the Engineer will prepare a Wetland Impact Evaluation (WIE).

- Prepare wetland impact exhibit and evaluate wetland impacts.
- Prepare and submit the IDOT Wetland Impact Evaluations (WIE) form electronically.
- In addition, an electronic copy of the WIE will be provided to the LPA for their records.

Special Waste Assessment. The Engineer will complete a special Waste Assessment (SWA) of the project area to determine if there is a potential for contamination and whether a Preliminary Environmental Site Assessment (PESA) is required. The SWA will be completed following the guidelines in Section 20-12.03 of the BLRS Manual.

- The Engineer will obtain a Radius Report from a company that provides search results of public and proprietary databases to identify any nearby CERCLIS, LUST, UST, RCRA, and other sites that may pose a risk of contamination.
- A Memorandum will be prepared that summarizes the findings of the SWA for inclusion in the Project Development Report (PDR).
- In addition, an electronic copy of the Special Waste Memorandum will be provided to the LPA for their records.

TASK 8 – PRELIMINARY BRIDGE ANALYSIS & TYPE, SIZE & LOCATION DRAWING (TS&L)

The Engineer will perform preliminary calculations for the scope of work approved in the BCR. Type, Size and Location Drawing(s) will be prepared and submitted IDOT Bureau of Bridges and Structures as an attachment to the PBDHR for concurrence and approval. The TS&L will serve as the basis for design in Phase II.

Develop Design Parameters. Bridge design parameters will be developed in accordance with the *IDOT Bridge Manual and IDOT BLRS Manual* based on roadway functional classification and traffic projections. The design parameters will include:

- Roadway classification data
- Waterway information
- Profile grade data
- Horizontal curve data
- Design specifications, loading, allowable stresses, and seismic data

Preliminary Bridge Design. Preliminary design calculations will be performed to establish superstructure type and size, substructure types and appropriate details.

Prepare Type, Size and Location (TS&L) Drawing(s). General plan and elevation, sections and details will be provided.

TASK 9 – PRELIMINARY BRIDGE DESIGN AND HYDRAULIC REPORT

The Preliminary Bridge Design and Hydraulic Report (PBDHR) contains the necessary information for use by IDOT District 1 and Bureau of Bridges and Structures (BBS) personnel to review the preliminary bridge design and hydraulics for local agency bridge construction projects.

A package for the BBS to review will be assembled and submitted which includes the following:

- Form BLR 10210 will be completed.
- A Type, Size and Location Drawing(s) will be included with PBDHR
- A Scour Critical Evaluation Coding Report Form will be completed.
- Scour analysis data will be included with the PBDHR
- The Structure Geotechnical Report (SGR) will be included with the PBDHR.
- A Roadway Plan and Profile sheet will be included with the PBDHR.

A package for District 1 to review will be assembled and submitted which includes the following:

- BBS package.
- Hydraulic Report
- USGS Quadrangle
- Structure Geotechnical Report

The Engineer anticipates two submittals to IDOT: the original submittal and a re-submittal to address IDOT/BBS comments. The Engineer also anticipates that each submittal to IDOT will require 4 copies of BBS package and 1 copy of the District 1 submittal. In addition, an electronic and hard copy of the PBDHR will be provided to the LPA for their records.

TASK 10 – PERMIT COORDINATION

During preliminary engineering (Phase I) for the project, the Engineer will identify a list of permits required for the construction activities. Permits from the following regulatory agencies are anticipated for this bridge project.

- Coordination, including a pre-application meeting with the U. S. Army Corps of Engineers in association with the joint permit application and associated documentation will be prepared. The permit application will be prepared and submitted in Phase I.
- A floodway construction permit from the Illinois Department of Natural Resources – Office of Water Resources (IDNR-OWR) is anticipated in the case of a full bridge replacement or rehabilitation that changes the existing bridge opening. The floodway permit application will be prepared and submitted in Phase I.
- Since the roadway development is regulated by the Lake County Stormwater Management Ordinance, a permit is required by Lake County Planning and Development Coordination, including a pre-application meeting with the LCSMC in association with the permit application and associated documentation will be prepared. The actual permit application and plan submittal will be completed in the Design Phase (Phase II).

TASK 11 – TRAFFIC MANAGEMENT/ BARRIER WARRANT ANALYSIS

The project improvements will be completed under roadway closure. The Engineer will analyze several aspects of traffic management that based on the type of construction could include, analyzing traffic capacity, detour concepts, roadway or route limitations, motoring public impacts, stake holder coordination, and documentation.

- Barrier Warrant Analysis report will be prepared and submitted to the LPA. Guardrail lengths will analyzed and provided in a technical memo.
- Detour analysis, exhibits and stakeholder coordination for full bridge closure. Upon analysis, the Engineer will submit finding and recommendation to the LPA for concurrence.

- Upon LPA concurrence of detour plan, the Engineer will coordinate and attend a Detour Committee Meeting with IDOT District 1 to present concept detour plan. The detour meeting is required on all project that utilize state routes for the detour.
- Upon concurrence of the detour route from IDOT, the Engineer will complete a formal Detour Report for the project improvements including a detailed detour plan. The report and plan will be submitted to IDOT for review and approval.

TASK 12 – PUBLIC INVOLVEMENT

Public Meeting. In order to get public opinion on the project, the design team will conduct (1) open house style public coordination meeting. The Engineer will be responsible for contributing exhibits and having at least two (2) employees present to answer questions from the public. General comments will be received from the public and documented in the PDR. This task does not include a Public Hearing.

- The LPA will identify the location and coordinate schedules.
- The meeting will be advertised to the public in local papers, on the LPA website, and via letter to property owners within project limits to create awareness throughout the impacted area. The Engineer will identify local stakeholders and will send mailings.
- Displays and handouts will be created to outline the proposed improvements and impacts to the surrounding community.
- The Engineer will attend and lead the public meeting. Public comment forms will be available and a representative from the Engineer will record attendance and collect comments.
- The Engineer will take the recorded public comments and provide necessary information for the LPA to send out responses.
- The Engineer will coordinate with the Village of Barrington's Engineer for the adjacent Bike/ Pedestrian path on the east side of Hart Road so there is a joint public meeting.

Stakeholder and Impacted Property Coordination. Per IDOT BDE Manual Section 21-3.01, projects with minimal right-of-way (ROW) acquisition shall contact affected property owners via certified mail. The Engineer shall prepare the letters and exhibits depicting proposed ROW or easements and provide to the LPA to mail.

TASK 13 – RIGHT-OF-WAY AND EASEMENT PLATS

In the event of a full culvert replacement or rehabilitation that requires a raise in roadway profile, right-of-way acquisition and/or temporary construction easements may be required. According to the recorded plats of dedication the ROW width is primarily 90-feet wide, 40 feet to the west and 50 feet to the east. The Engineer will prepare the plats and legal descriptions.

ROW acquisition and/or easements will potentially impact two (2) land parcels on the west side.
1335302030
1335302029
ROW acquisition and/or easements will potentially impact one (1) land parcels on the east side.
1335401068

- Necessary courthouse research will be performed that will include all the plats, deeds, and right-of-way documents for each parcel within the project limits and adjoining the project.
- Additional monument reconnaissance in the field as required to verify the existing right-of-way of Hart Road.

- A Plat will be prepared for the right-of-way takings and temporary construction easements and legal descriptions will be written for the parcels affected. A separate legal description will be needed for each holding affected, as determined by ownership.
- Current Title Commitments will be necessary to determine ownership and total holdings. Title Commitments will be ordered by the LPA.
- Plat-of-Highway and legal descriptions will be prepared and submitted to IDOT for review and comment.
- Plats shall be in accordance to IDOT and LPA standards.
- Follow-up with property owners, as necessary, during the design. This may include drafting a letter on behalf of the LPA of the project status.
- Coordination of plats and legals with LPA's consultant.

TASK 14 – MEETINGS AND COORDINATION

Meetings and coordination will serve to discuss and resolve issues in the preliminary design process. Minutes of all meetings will be prepared by the Engineer and distributed within five working days of the meeting. The Engineer will be responsible for maintaining a list of action items that will be updated at each meeting.

- The Engineer has allotted for one (1) project initiation meeting with the LPA.
- Conduct a pre-final plan-in-hand field review meeting. This meeting will be held two weeks prior to the prefinal submittal.
- The Engineer has allotted for one (1) meeting with the LPA at the project site to discuss proposed improvements.
- The Engineer has estimated for two (2) additional coordination or progress meetings with the LPA, Village of Barrington or other project stakeholders
- The Engineer has allotted for one (1) Public Meeting (as outlined in Task 12).
- The Engineer has allotted for one (1) pre-application meeting with LPA, the Army Corps of Engineers.
- The Engineer has allotted for one (1) meeting with the District 1 IDOT Detour Committee.
- The Engineer will prepare and distribute meeting minutes for the aforementioned meetings.

TASK 15 – PROJECT ADMINISTRATION AND MANAGEMENT

The successful management of a Phase I and II project requires scheduling and reporting of the progress of the project. Work will include the following tasks:

- The Engineer will initiate project setup including contract administration, budget control and internal project team meetings.
- The Engineer will prepare and submit monthly progress reports during months when engineering activities occur, and invoices are due.
- The Engineer will provide phone and email updates and general project coordination with the LPA as necessary to advance the progress of the project.
- The Engineer will prepare and monitor a project schedule and will update the schedule periodically as tasks or project scheduling change, as well as perform scope of work reviews, resource planning, internal team coordination and contract administration and invoicing.

TASK 16 – PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

The Engineer will prepare a set of final design plans and specifications according to the LPA and IDOT requirements for the culvert reconstruction. Plans for the improvements are anticipated to consist of the following sheets:

- Cover sheet (1 sheet)
- Index of Sheets, LCDOT Standards, Highway Standards and District One Standard Details (1 Sheet)
- General Notes (1 sheet)
- Summary of Quantities (2 sheets)
- Typical Sections (1 sheet)
- Schedule of Quantities (10 sheets)
- Alignment, Ties and Benchmarks (1 sheet)
- Temporary Detour Plan (2 sheets)
- Existing Conditions and Removal Plan (2 sheets)
- Plan and Profile Sheets (2 sheets – 1 roadway, 1 pedestrian/ bike path)
- Detour Plan (1 sheets)
- Traffic Control Plan (3 sheets)
- Erosion and Sediment Control Plan (4 sheets)
- Plat of Highways (3 sheets)
- Grading Plan (1 sheet)
- Streambank Stabilization Plan (1 sheet)
- Pavement Marking and Landscaping Plan (1 sheet)
- Structural Plan Sheets and Details (23 sheets)
- Cross Sections (3 sheets)
- LCDOT Standard Details (5 sheets)
- IDOT Highway Standard Details (5 sheets)

Specifications will be prepared using Microsoft Office. LCDOT standard contract documents and standards will be used. Editable PDF and source files will be provided to LCDOT (page numbers and footers will be excluded). Bid documents and unit price bid item quantities will be included. Contract documents will include bid forms, notice to bidders, contract forms, bonding and insurance requirements and state and federal compliance requirements. PS&E will be submitted for review and approval at the pre-final and final bid documents stages of completion.

This task also includes the preparation of an engineer's opinion of probable construction cost for the proposed improvements and estimate of time.

Prefinal submittal will consist of the following deliverable to the LPA:

- Electronic Copy of Plans (both DGN and PDF format 11"x17")
- Special Provisions (digital format – submit editable PDF and source files (Microsoft word))
- Cost Estimate and Estimate of Time (digital format)

Final submittal will consist of the following deliverable to the LPA:

- Quarter Size Plans 11" x 17" (one copies)
- Electronic Copy of Plans (both DGN and PDF format 11"x17")
- Special Provisions (digital format – submit editable PDF and source files (Microsoft word))
- Deposition of Comments
- Cost Estimate and Estimate of Time (hard copy and digital format)
- Quantity Calculation Files (both hard copy and digital format)
- Flash Drive Electronic Data

TASK 17 – PERMITTING

The Engineer will prepare and submit permit documents to the following agencies:

- US Army Corps of Engineers (USACE)
- Illinois Department of Natural Resources (IDNR)
    - Ecological Compliance Assessment (EcoCAT)
    - Illinois Historic Preservation Agency (IHPA)
- Illinois Environmental Protection Agency (IEPA)
- Illinois Department of Transportation (IDOT)
- Lake County Stormwater Management Commission (LCSMC)
- McHenry-Lake Soil Water Conservation District (MLSWCD)
- National Pollutant Discharge and Elimination System (NPDES)

TASK 18 – QUALITY ASSURANCE/ QUALITY CONTROL (QA/QC)

Perform an in-house peer review and constructability review of the preliminary, pre-final and final plans, specifications, and estimates of cost for the project. A QA/QC compliance statement shall be submitted with each deliverable.

- The Engineer will establish and adhere to an approved project QA/QC plan. The Engineer will submit certification of QA/QC per each submittal attesting the QA/QC plan has been implemented on the contract documents.

TASK 19 – BIDDING ASSISTANCE AND PHASE III ASSISTANCE

This task includes assistance to the LPA by responding to bidder questions, and preparing addenda as required. Perform shop drawing review and respond to RFIs.

EXCLUSIONS TO THE SCOPE OF SERVICES

The foregoing outlines the Engineer's understanding of the Scope of Services required for the successful completion of the preliminary engineering phase (Phase I) for the project. The following tasks or items were deemed unnecessary for this project, were excluded from the Scope, and would be considered as additional services if required by IDOT, the FHWA, or any other agency for the successful completion of the project.

- Individual Parcel Plats
- Incidental Take Authorization / Coordination
- An Environmental Assessment (EA) is <u>not</u> anticipated and is not included in this *Scope of Services*
- A full hydrologic analysis of the contributing watershed (assuming Streamstats is acceptable hydrologic method for determining regulatory discharges)
- Public Meeting – Public Notice advertisement
- Purchase of Wetland Credits (Phase II if necessary)
- Appraisals and Negotiations (Phase II if necessary)

LAKE COUNTY HART ROAD CULVERT REPLACEMENT

WORK ITEM		2019										2020												2021
		March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January
PHASE I & II ENGINEERING																								
1 Early Coordination and Data Collection	(3/8/19)																							
2 Route and hydraulic Surveys	(3/8/19)																							
3 Geotechnical Subsurface Investigation	(4/26/19)																							
4 Utility Identification and Coordination	(4/26/19)																							
5 Bridge inspection and Bridge Condition Report	(5/10/19)																							
6 Stream Hydraulic Analysis and Report	(9/6/19)																							
7 Environmental Survey	(5/31/19)																							
8 Preliminary Bridge Analysis & TS&L Drawing	(9/6/19), (12/20/19)																							
9 Preliminary Bridge Design and Hydraulic Report	(9/6/19), (12/20/19)																							
10 Permit Coordination	(7/26/19)																							
11 Traffic Management Analysis	(10/25/19)																							
12 Public Involvement	(9/27/19)																							
13 Right-of-Way and Easement Plats	(2/7/20)																							
14 Meetings and Coordination	(on-going)																							
15 Project Administration and Management	(on-going)																							
16 Plans, Specifications and Estimate (PS&E)	(08/7/20), (11/20/20)																							
17 Permitting	(2/7/20)																							
18 Quality Assurance/ Quality Control	(7/24/20)																							
19 Bidding Assistance/ Phase III Assistance	(1/29/21)																							

Submit BCR to BB&S (5/10/19)

BCR Approval

Submit TS&L, Hydraulic Report, SGR (9/6/19)

Address BB&S Comments (12/20/19)

BB&S Approval

Submit Plats & Legals (2/7/20)

January 8, 2021

Submit for Permits (02/7/20)

Pre-Final P,S&E (08/7/20)

Final Plan (11/20/20)

◆ Indicates Project Milestone

Indicates Consultant Work Time

Indicates Agency Review Time

Advertisement and Bidding Phase

MSET

www.mset.com

MIDLAND STANDARD ENGINEERING & TESTING, INC.
558 Plate Drive, Unit 6 East Dundee, Illinois
(847) 844-1895 f(847) 844-3875

December 31, 2018

Ms. Melissa Lange, P. E., S. E.
Engineering Resource Associates, Inc.
3s701 West Avenue, Suite 150
Warrenville, Illinois 60555

Re: Proposal for Subsurface Investigation and Structure Geotechnical Report
Hart Road over Flint Creek SN 049-3077
Barrington, Illinois

Dear Ms. Lange:

We are pleased to have the opportunity to submit the following proposal to provide a Structure Geotechnical Report for the proposed improvements.

Project Description and Scope of Work

The proposed project consists of the replacement of a drainage culvert under Kishwaukee Valley Road with a bridge structure. The geotechnical scope for the project includes:

1. Work for the bridge structure – Including two (2) bridge abutment borings per IDOT requirements (500-kip Nominal Driven Bearing, estimated at 65-foot depth) and one (1) creek bed sample to determine soil characteristics for channel scour.
2. Bridge approach roadway reconstruction – including two (2) road subgrade borings and two (2) pavement cores.
3. Potentially Impacted Property Evaluation – Including a data base search, laboratory testing, and preparation of IEPA LPC 663 forms if applicable.

The subsurface soil exploration for the proposed improvements will be accomplished by performing structure soil borings to the depth indicated above or to auger refusal on bedrock, which ever comes first.

Method of Performance - Field Work

The soil borings will involve drilling test holes that incorporate standard penetration tests and split-spoon sampling at 2-1/2 to 5-foot intervals, in accordance with the current IDOT Geotechnical Manual and the Design Memorandum for Structure Geotechnical Reports.

In our proposal, we have included provisions for a site meeting to layout of the borings and have assumed that the final locations and elevations will be determined by the Design Engineer or will be referenced to centerline stationing provided by the Engineer.

Method of Performance - Analysis and Report

We propose to mobilize a drill rig to the site after notice to proceed, layout, and utility clearance. MSET will provide traffic control during the soil boring and pavement core work. We will provide a Field Engineer at the site to layout the borings, and during the drilling to observe the exploration, perform field tests and measurements, prepare field reports, and maintain contact with our office. In this way, the program can be adjusted as it progresses and more is known about the site. Results of our fieldwork and a preliminary analysis will be available as the work is completed. A formal report would be provided shortly thereafter.

Our testing program will include laboratory tests to determine the classification, strength, water content, and other physical properties of the soils. The results of our field exploration and lab tests will be used in the engineering analysis and the formulation of our recommendations. The report will include foundation recommendations for support of the proposed structure, subgrade preparation recommendations for the road, and soil related construction procedures. The results of our work will be presented in a written report, prepared by a Registered Professional Engineer.

Fees

We propose to provide this work at the unit rates quoted on the attached Schedule of Services and Fees, Attachment 1. These estimated quantities and unit rates are based on information as outlined in this proposal and experience on past projects. On the basis of the above information, we estimate that these services can be provided for a fee of **$ 14,970.00.** We will not exceed this amount with out your permission.

General

Our staff is acquainted with the local subsurface conditions and has participated in the planning, development and execution of numerous soil explorations in this area. We are looking forward to working with you on this project.

Respectfully Submitted,
MIDLAND STANDARD ENGINEERING & TESTING, INC.

William J. Wyzgala, P.E.
Principal Engineer

WJW

Enclosure: Attachment 1 and General Conditions

MSET, Inc.
12/31/18

ATTACHMENT 1
SCHEDULE OF SERVICES AND FEES
Hart Road over Flint Creek, SN 049-3077
Barrington, Illinois

Item	Estimated Quantity	Unit Cost	Extension
Field Services			
Mobilization of Track Mounted Drill Rig, Drilling equipment, Personnel, lump sum	1	$400.00	$400.00
Bridge Structure Borings			
Through earth and other materials except rock encountered below ground surface, split-spoon sampling at thirty (30) to sixty (60) inch intervals, penetration record, unconfined compression tests (in cohesive soils) on samples retained, per day	2	$2,750.00	$5,500.00
Grout Backfill of Borehole, per foot	130	$8.00	$1,040.00
Pavement Core, each	2	$175.00	$350.00
Roadway Traffic Control, Flagmen, Signs, equipment, per day	2	$660.00	$1,320.00
		Field Services Total:	**$8,610.00**
Laboratory Services			
Moisture Content Determinations, each	45	$6.00	$270.00
Unconfined Compressive Strength, Qu, each	included	$4.50	
Washed Sieve, each	1	$75.00	$75.00
Grain Size Analysis by Hydrometer, each	1	$90.00	$90.00
Atterberg Limits	1	$80.00	$80.00
		Laboratory Services Total:	**$515.00**
Engineering Services for SGR Geotechnical Report Including:			
Layout Coordination, Utility Clearance and Permits			
Engineering Supervision During Drilling			
Preparation of Soil Boring Logs and Pavement Core Logs			
Analysis and Recommendations for Bridge Foundation			
LRFD Pile Depth vs Capacity, Report Preparation and Consultation			
Principal Engineer, per hr.	2	$155.00	$310.00
Geotechnical Engineer, per hr.	8	$135.00	$1,080.00
Staff Engineer, per hr.	10.5	$110.00	$1,155.00
Field Engineer, per hr.	20	$100.00	$2,000.00
Draftsman/Word Processing, per hr.	1	$70.00	$70.00
		SGR Engineering Cost:	**$4,615.00**
Potentially Impacted Property Evaluation			
Data Base Search, Radius Map, PID Scan			
Test for Pesticides/PCBs			
Evaluate pH Test Results & Prepare LPC-663 Form			
Lump Sum	1	$1,230.00	$1,230.00
		PROJECT TOTAL:	**$14,970.00**

Midland Standard Engineering & Testing, Inc.

CIVIL • GEOTECHNICAL • CONSTRUCTION MATERIALS

FEE AND RATE SCHEDULE
GENERAL CONDITIONS

ENGINEERING AND ASSOCIATED SERVICES

Fees for our services will be based upon the time worked on the project at the following rates:

Principal or Consulting Engineer.....
Project Engineer or Project Geologist.....
Senior Engineer, Senior Designer,
Or Senior Resident.....
Staff Engineer or
Senior Engineering Technician.....
Secretarial Services..... SEE PROPOSAL

REIMBURSABLE EXPENSES

The following items are reimbursable to the extent of actual expenses:

1. Transportation, lodging, and subsistence for out of town travel
2. Special mailing and shipping charges.
3. Special materials and equipment unique to the project.
4. Automobile travel to projects.

TEST BORINGS AND FIELD INVESTIGATIONS

On projects requiring test borings, test pits, or other explorations, we may obtain the service of reputable subcontractors to perform such work.

SPECIAL RATES

Per Diem or other special rates can be established for specific projects when conditions indicate the desirability of such rates.

ACCESS TO SITES

Unless otherwise agreed, the Client will furnish us with right-of-access to the site in order to conduct the planned exploration. We will take responsible precautions to minimize damage to the site due to our operations, but have not included in the fee the cost of restoration of any damage resulting from the operations. If the client desires, we will restore any damage to the site and add the cost of restoration to the fee.

INCREASES

Fee schedule increases made by our firm on an over-all client basis will be applied to work on all projects as they become effective. At least 30 days advance notice of such increases will be given.

INVOICES

Progress invoices will be submitted to the client monthly and a final bill will be submitted upon completion of the services. Invoices will show charges for different personnel and expense classifications. A more detailed separation of charges and backup data will be provided at client's request, but each invoice is due on presentation and is past due thirty (30) days from invoice date. Client agrees to pay a finance charge of 1½% per month, or the maximum rate allowed by law, on past due accounts. The client's obligation to pay for the work contracted is in no way dependent upon the client's ability to obtain financing, zoning, approval of governmental or regulatory agents, or upon the client's successful completion of the project.

WE RESERVE THE RIGHT TO SUSPEND OR TERMINATE WORK UNDER OUR AGGREEMENT UPON FAILURE OF TE CLIENT TO PAY INVOICES AS DUE.

INSURANCE

We maintain Workman's Compensation Insurance and Employer's Liability Insurance in conformance with state law. In addition, we maintain Comprehensive General Liability Insurance and Automobile Liability Insurance with bodily injury (limit $1,000,000. each occurrence, $1,000,000. aggregate), and property damage (limit $1,000,000. each occurrence, $1,000,000. aggregate). Within the limits of said insurance, we agree to hold the client harmless from and against loss, damage, injury or liability arising directly from the negligent acts or omissions of ourselves, our employees, agents, subcontractors and their employees and agents. If the client places greater responsibilities upon us or requires further insurance coverage, we, if specifically so directed, will take out additional insurance (if producible) to protect us, at the client's expense. But we shall not be responsible for property damage from any cause, including fire and explosion, beyond the amounts and coverage of our insurance.

LIMITATION OF PROFESSIONAL LIABILITY

The Client recognizes the inherent risks connected with construction. In performing our professional services, we will use that degree of care and skill ordinarily exercised, under similar circumstances, by reputable members of our profession practicing in the same or similar locality. No other warranty, express or implied, is made or intended by the proposal for consulting services or by furnishing oral or written reports of the findings made. It is agreed that the Client will limit any and all liability, claim for damages, cost of defense, or expenses to be levied against us on account of any design defect, error, omission, or professional negligence to a sum not exceed $50,000., or the amount of our fee, whichever is greater.

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