

Municipality	L O C A L A G E N C Y	 <p>Illinois Department of Transportation</p> <p>Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds</p>	C O N S U L T A N T	Name Hampton, Lenzini and Renwick, Inc.
Township				Address 380 Shepard Drive
County Lake County – Div. of Transportation				City Elain
Section 17-00275-02-BR				State Illinois

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. 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 Hutchins Road over Mill Creek Culverts

Route FAU 2648 Length 0.21 Mi. 1,100 FT (Structure No. 049-3023)

Termini at Mill Creek

Description:
Preliminary engineering and design services for the rehabilitation or replacement of the culverts.

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 his 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 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 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 performed as stipulated in paragraphs 1a, 1g, 1i, 2, 3, 5 and 6 in accordance with one of the following methods 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 actual cost of performing such work plus 147 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 a five (5) percent service.

"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.

The Total Not-to-Exceed Contract Amount shall be \$256,683.98

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 paragraphs 1a through 1g under 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 147 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 147 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.

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 triplicate counterparts, each of which shall be considered as an original by their duly authorized officers.

Executed by the LA:

ATTEST: _____ County of Lake _____ of the
(County)
State of Illinois, acting by and through its
County Board
By _____
Lake County Clerk By _____
(Seal) Title Chairman of the County Board

RECOMMENDED FOR EXECUTION

Al Giertych, P.E.
Acting Director of Transportation/Acting County Engineer
Lake County

Executed by the ENGINEER:

Hampton, Lenzini and Renwick, Inc.
380 Shepard Drive
Elgin, Illinois 60123
By _____ By _____
Title _____ Title _____



Hampton, Lenzini and Renwick, Inc.
Civil Engineering • Structural Engineering • Environmental Services • Land Surveying
www.hlrengineering.com

Lake County Division of Transportation

Hutchins Road (FAU 2648)

over

Mill Creek Culverts

Section 17-00275-02-BR

Preliminary Engineering – Phase I

Design Engineering – Phase II

SCOPE OF SERVICES

Understanding of the Project:

The Lake County Division of Transportation has initiated a project requiring professional engineering services by Hampton, Lenzini and Renwick, Inc. (HLR) to perform preliminary and design engineering services for the rehabilitation or replacement of the culvert carrying Hutchins Road over Mill Creek, Structure No. 049-3023 located 0.5 miles north of Grand Avenue in Warren Township.

The existing culvert is a three cell corrugated metal pipe-arch. Each cell measures 10'-8" x 6'-11" and is 69'-0" long. The culvert was built in 1969 and designed for AASHTO H20 live loading.

The culvert is in poor condition. Full depth corrosion was observed during the last inspection along the bottom of the culvert up to the normal water surface elevation.

The proposed project limits include the Hutchins Road Bridge over Mill Creek and its immediate roadway approaches – approximately 550 feet in each direction. The existing culvert will be evaluated for rehabilitation and replacement. A Bridge Condition Report (BCR) will be conducted to determine the most feasible and economical scope of work. The design of the improvement will make every effort to stay within existing right-of-way and to minimize environmental impacts to adjacent properties. However, if profile adjustment is necessary, the improvement may require additional right-of-way and/or easements.

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

- Lake County Division of Transportation
- Illinois Department of Transportation
- Warren Township
- Grandwood Park District
- McHenry-Lake County Soil & Water Conservation District
- United States Army Corps of Engineers (USACOE)
- Lake County Stormwater Management Commission (LCSMC)

- Central Lake County Joint Action Water Agency (CLCJAWA)
- Commonwealth Edison (ComEd)
- NICOR
- ATT
- First Responders
- Property Owners

Preliminary Engineering (Phase I):

Although local funding will be utilized for preliminary engineering: the scope items below have been identified assuming full bridge replacement following federal funding guidelines outlined in the Bureau of Local Roads and Streets Manual. If the preferred alternative is culvert rehabilitation, some of these tasks will be scaled down or excluded.

Field Survey:

Topographic survey will be required to properly document existing field conditions that will serve as the basis for the preliminary engineering design.

Cross sections will be taken at 50-foot intervals for 550 feet north and south of the bridge. These cross-sections will identify the right of way, centerline of the roadway, edges of pavement, edges of shoulder and other visible features to establish the embankment slope.

A boundary survey will be performed to establish the existing right of way. Research needed to establish the boundary is also included in these services.

HLR will generate a base file of the survey data, develop a DTM, and format the plan & profile and cross section sheets using Geopak and Microstation.

A detailed field review will be performed so that a survey of important hydraulic features can be modeled effectively. The survey will include stream cross sections, overflow weirs, conveyance structures and pedestrian walkway.

Utility Identification and Coordination:

Utility information will be collected for the project area to determine locations of all utilities that may affect design and construction of the improvements. A JULIE design stage information request will be submitted and identified facilities evaluated for potential conflicts.

Coordination with identified utility companies will be documented in the Project Development Report.

Bridge Condition Report (BCR):

A Bridge Condition Report will be developed for the structure outlining its current conditions and recommendations for improvement. The sufficiency rating for SN 049-3023 is 69.0, making it eligible for federal funding. The culvert will be evaluated for rehabilitation and replacement.

The BCR will recommend a preliminary structure design for replacing the culvert, including the type, span and construction depth of the superstructure members and substructure configuration. The proposed bridge superstructure will be evaluated for steel beam or PPC deck beam alternates.

Environmental Surveys & Permit Coordination:

ESR Submittal

HLR will prepare and submit the Environmental Survey Request (ESR) to IDOT. The IDNR-EcoCat review will be completed through IDOT to determine protected species found within the project limits. IDOT BD&E will complete cultural, biological and wetland resource reviews. HLR will complete the following environmental studies.

Wetland Delineation and Report

HLR will perform a formal wetland delineation of the proposed project area. The wetland delineations will be conducted to meet the requirements of Executive Order 11990, "Protection of Wetlands", Section 404 of the Federal Water Pollution Control Act as amended by the Clean Water Act (Corps of Engineers, Section 404 Permit), and Illinois Environmental Protection Agency (IEPA Section 401 Guidelines) regulations. These regulations pertain to the placement of fill or alterations of drainage within wetlands of any type and apply to private as well as publicly owned wetlands. The investigation will meet the requirements of these regulations by identifying the type, functions, and boundary of the involved wetlands.

"Wetlands" are defined by the U.S. Army Corps of Engineers (USACE) for jurisdictional purposes as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 323.3(c)).

HLR will provide the following scope of services for the wetland investigation for the Hutchins Road improvement:

Map Review. The following maps and documents will be reviewed prior to conducting the field investigation:

- U.S. Geological Survey Topographic Maps
- National Wetlands Inventory Maps
- Lake County ADID Wetland Map
- USDA Soil Survey
- Hydric Soils of the United States
- Flood Insurance Rate Maps

It appears from a preliminary mapping review that there are mapped wetlands associated with Mill Creek within the project limits.

Field Investigation. The field investigation will be conducted by our environmental personnel who are experienced in Federal methods for conducting wetland delineations. Our staff will classify and define hydric soils, hydrophytic vegetation, and evidence of hydrology to determine if wetlands are present. The wetland perimeters will be surveyed by HLR's surveying department.

Wetlands found will be classified according to type using the "Classification of Wetlands and Deep Water Habitats of the United States" by Cowardin. Wetland boundaries will be defined in accordance with the *Corps of Engineers Wetlands Delineation Manual: Midwest Region*. This includes a soil investigation to determine the presence or absence of hydric soils and an analysis of the dominant plant species. Field observations will be made on any evidence indicating the hydrology of the area and on water sources that are supporting these wetlands. Functions of these wetlands will be evaluated from field observations.

In addition to the areas mapped as wetlands by the NWI and Lake County wetland map, all areas within the project limits will be investigated in the event that unmapped wetlands are present. As the NWI maps are developed to be used as a general planning tool, detailed field investigations are required to determine whether or not wetlands are present. All areas exhibiting wetland characteristics within the proposed project limits will be investigated.

HLR can conduct the farmed wetland determination as the Natural Resource Conservation Service (NRCS) no longer conducts these determinations. It appears from the aerial photographs that farmed wetlands are not located immediately adjacent to the roadway improvement as the majority of the project will likely occur within the existing roadway right-of-way, a farmed wetland determination is not anticipated.

A wetland delineation letter report will be prepared summarizing the findings of the fieldwork including mitigation recommendations and options. The final determination of impacts will be coordinated through IDOT BDE and IDNR. Mitigation will be through the purchase of wetland banking credits. HLR will assist the County with obtaining wetland bank credits.

The wetland delineations will be summarized in the Wetland Impact Evaluation Forms (WIE). These documents will be submitted to IDOT for review.

Tree Survey

HLR will conduct a tree survey within the project limits identifying the tree type, diameter, health, structure and prepare a tree survey report identifying trees that will be impacted according to IDOT requirements. Evaluation of bat habitat may also be required and can be completed along with the tree survey.

Section 4(f) Lands

There are potential Section 4(f) lands that are located adjacent to the Hutchins Road project. If any impacts or easements are required, Section 4(f) coordination will be needed and a Section 4(f) report may be required. It is assumed for these scope of services the impacts are *De Minimus*. HLR will coordinate with the Grandwood Park District and prepare a *De Minimus* report to be documented in the PDR.

Preliminary Environmental Site Assessment (PESA):

This scope includes completing a Preliminary Environmental Site Assessment. The PESA will be prepared using historical and geological information. The specific methods used to conduct the assessment are contained in 1) ASTM Standards E1527-13, 2) A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects (Erdmann et al., 2012), 3) Special Wastes Procedures for Local Highway Improvements (IDOT Local Roads Manual, July 22, 2004), and 4) "IDOT Bureau of Design and Environment

Manual (BDE Manual), Section 27-3.03 (b), October 2015). The PESA will include a database search, review of historical records, an on-site evaluation, and review of other project conditions that may give us insight into the existing environmental conditions along the route.

Once the review has been completed, a written report will be completed and submitted as documentation to the on-site analysis. This report will accompany various site photographs, maps, and the above referenced documentation, which will be utilized to assist the project evaluation and any applicable recommendations. We do not anticipate the need for further investigation.

Environmental Background Research and 662 Application

The initial step will include an environmental database search for all records pertaining to contamination within project limits. The information generated in the database search will be utilized to provide the County with a map delineating potentially impacted properties (PIPs). The areas not adjacent to PIPs should be eligible for processing with a 662 application. The spoils generated from these sites will only require pH testing, which will be provided by HLR with a mobile testing device. HLR will coordinate with local CCDD facilities for 662 pre-approval. In the unlikely event that any PIPs are found on or adjacent to the site, County staff would be notified of the options available for material disposal. If any areas are adjacent to PIPs, the site will require additional testing and analysis, for processing with a 663 application as detailed below.

Sampling and 663 Application

This task includes taking two soil samples for soil characterization. These samples will be used to establish preexisting conditions and also for potential CCDD coordination. The soil samples will be submitted to a NELAC approved laboratory for analysis. We may analyze each soil sample for metals, volatiles, semivolatiles, polynuclear aromatic hydrocarbons and PCBs. The results of the analysis would be compared to the limits outlined in the Maximum Allowable Concentrations (MAC) of Chemical Constituents In Uncontaminated Soil Used as Fill Material At Regulated Fill Operations (35 Ill. Adm. Code 1100.Subpart F). A 663 will be prepared if levels meet MAC table limits. If the soils come back with any elevated levels, additional TCLP or SPLP analysis on those specific constituents may be required to determine if they are within the MAC table limits. This testing would be used to create a waste profile if it was necessary to take it to a landfill.

Drainage / Hydraulic Studies:

The items under task include hydraulic modeling and preparation of a hydraulic report.

HLR will locate the effective WSP-2 models for Mill Creek from FEMA or the Lake County Stormwater Management Commission. We will also request available data from the county and countywide GIS (contours, latest aerial photography, construction plans or utility atlases). The effective hydraulic model will be updated to the current HEC-RAS model. The model cross sections will be updated with stream survey cross sections to improve accuracy. Bridge designs will be evaluated to determine if they are permissible under the IDNR floodway regulations and the permits will be obtained. The design of the site will be reviewed for floodway impacts, compensatory storage calculations will be made and volumes provided if necessary. A scour analysis will be performed for the streambed of Mill Creek to provide scour protection beneath the proposed design and to decrease erosion potential.

A hydraulic report will be prepared for the proposed design. The model will utilize regulatory flow rates for Mill Creek from the effective Flood Insurance Study (FIS). Flow rates will be interpolated for flood events that are not included in the FIS.

Preliminary Design Studies:

Preparation of the Plan & Profile will include evaluating the existing horizontal and vertical alignment. Adjustments to the existing geometric features to accommodate the proposed improvements will be evaluated and shown on plan and profile sheet exhibits in the PDR.

Other items include guardrail analysis and pavement design.

A detour plan will be evaluated. It is assumed the improvements will be constructed under a detour. *Staged construction will not be evaluated under these scope of services.*

Preliminary Bridge Design and Hydraulic Report (PBDHR):

HLR will prepare and submit BLR 10210. Attachments, including TS&L, Plan & Profile and cross section sheets will be included. A resubmittal including revisions and disposition of comments is included in this item.

Public Involvement:

This task assumes a public meeting or hearing will not be required. Letters introducing the project along with exhibits showing the proposed improvements and detour will be sent to property owners, agencies and stakeholders.

Project Development Report:

HLR will prepare a project development report (PDR) presenting the project's engineering and environmental analyses, design considerations, variances and recommendations. The PDR will be prepared in the current IDOT BLR format and will include an estimate of cost for the recommended improvements, along with exhibits and documentation required to obtain design approval by IDOT/FHWA.

Two submittals will be required, a draft submittal and final submittal. Revisions and disposition of comments are included in this task.

Preparation of Plats and Legals:

A Plat of Highways / Legal Descriptions will be developed and submitted to IDOT for approval. It is assumed 4 parcels will be impacted. ROW calculations are also included in this task.

Assuming an IGA will entered into with the Grandwood Park District, A Legal Description / Exhibit will be prepared for the County to incorporate into the IGA.

Meetings and Coordination:

HLR will coordinate project activities with the LCDOT, IDOT, Grandwood Park District and other stakeholders as necessary.

The following meetings are included in these scope of services:

- LCDOT Kick-off Meeting – 2 persons

- LCDOT Progress Meeting – 2 persons
- IDOT Kickoff Meeting (if needed) – 2 persons
- FHWA/IDOT coordination meeting at IDOT D1 - 2 persons

Project Administration and Management:

HLR will coordinate project status and approval milestones with the County and IDOT. Account set-up, project scheduling, invoicing and budget reviews are included in this task.

Design Engineering (Phase II):

Although local funding will be utilized for design engineering: the scope items below have been identified assuming full bridge replacement following federal funding guidelines outlined in the Bureau of Local Roads and Streets Manual. If the preferred alternative is culvert rehabilitation, some of these tasks will be scaled down or excluded.

Geotechnical Investigation:

A geotechnical investigation will be conducted by Rubino Engineering, Inc. subconsulting to HLR. Rubino will perform two structure borings, two roadway borings, one scour boring, two pavement cores and prepare a Structural Geotechnical Report (SGR).

A pre-boring meeting is included under Meetings and Coordination to identify the boring locations.

Supplemental Surveys:

A supplemental survey is included to pick-up any new features and/or verify the DTM.

ROW monumentation is included in this item.

Utility Coordination:

HLR will work with owners of utilities to determine conflicts and resolution of identified conflicts. Pre-final and final plans will be sent to utility companies.

Roadway Design & Plans:

The project limits will be determined during the preliminary engineering phase, but for the purposes of this scope are considered 550 feet north and south of the culvert crossing. The proposed cross section will be as approved in the PDR.

The roadway plans are working drawings that show the location, configuration, and dimensions of the prescribed work that includes: layouts, profiles, structures, and other necessary details. The civil drawings will be prepared under the supervision of a Professional Engineer.

• Cover Sheet	1 Sheet
• Index of Sheets, Highway Standards, General Notes	1 Sheet
• Summary of Quantities	3 Sheets
• Schedule of Quantities	3 Sheets
• Typical Sections	1 Sheet
• Alignment, Ties and Benchmarks	1 Sheet
• Existing Conditions and Removals	2 Sheets
• Plan & Profile	2 Sheets
• Suggested Stages of Construction and Traffic Control – Detour Plan	1 Sheet
• Suggested Stages of Construction and Traffic Control – Details	1 Sheet
• Erosion and Sediment Control Plan	2 Sheets
• Erosion and Sediment Control Notes and Details	4 Sheets
• Grading Plan – Bridge and Channel	1 Sheet
• Plat of Highways	4 Sheets
• Pavement Marking, Signing & Landscaping Plan	2 Sheets
• Structural Sheets	25 Sheets

- Construction Details 2 Sheets
- District One Details 6 Sheets
- Cross Sections – Channel 2 Sheets
- Cross Sections – Roadway 10 Sheets

The pre-final plans will be developed and submitted to LCDOT and IDOT. The submittal will be considered 95% complete and will include plans, specifications, cost estimate and estimate of time.

The final submittal will be submitted to LCDOT and IDOT and considered 100% complete. The final submittal will include plans, specifications, cost estimate, estimate of time, and final documents/calculations.

Additional design tasks will include guardrail design and analysis to support the guardrail features shown on the plans.

Structural Design & Plans:

The structural drawings are working drawings that depict the location, configuration, and dimensions of the bridge substructure, superstructure and details. The structural plans will be prepared by, or under the supervision of an Illinois Licensed Structural Engineer.

- General Plan and Elevation 1 Sheet
- General Data 1 Sheet
- Top of Slab Elevations 2 Sheets
- Top of Approach Slab Elevations 2 Sheets
- Superstructure 1 Sheet
- Diaphragm Details 1 Sheet
- Superstructure Details 1 Sheet
- Bridge Approach Slab Details 2 Sheets
- Railing Details 1 Sheet
- Framing Plan 1 Sheet
- Beam Details 2 Sheet
- Abutments 2 Sheets
- Pile Details 1 Sheet
- Soil Boring Logs 2 Sheets
- Existing Structure Plans 2 Sheets

Prior to each of the submittals, an HLR Senior Structural Engineer will review the bridge plans Quality Control and Quality Assurance.

Quantity Calculations:

Earthwork computations, pavement computations and other quantity calculations will conform to the requirements of Section 11-5 of the *BLRS Manual* and the *BDE Manual, Chapter 64*.

HLR will prepare quantity computations for both pre-final and final submittals. The computed quantities will serve as the basis for the Summary of Quantities plan sheet and the estimated construction costs.

The *Standard Specifications for Road and Bridge Construction, Supplemental Specifications* and the *Recurring Special Provisions* will be cross checked to ensure that the appropriate pay items, methods of measurement and basis of payment are used. For each quantity, the IDOT coded pay item number will be used. These coded pay items will be determined from the *IDOT Coded Pay Items*.

Prior to the Pre-Final and Final Plan submittal, a Senior Project Engineer and/or Senior Structural Engineer will review the quantities in accordance to the WBK Quality Assurance Plan.

Specifications & Special Provisions:

HLR will prepare contract specifications and special provisions for each submittal stage of the project. The *IDOT Standard Specifications* and *Supplemental Specifications* are included by reference in the first paragraph of the project Special Provisions. Applicable *IDOT Recurring Special Provisions* and *Recurring Local Roads and Streets Special Provisions* will be included by reference by use of the Check Sheet for Supplemental Specifications and Recurring Special Provisions.

Where a project work item contains work, material, unique sequence of operations or any other requirements that are not included in the *Standard Specifications, Supplemental Specifications, Recurring Special Provisions, BDE Special Provisions, Guide Bridge Special Provisions or LCDOT Special Provisions*, a project specific Special Provision will be written by HLR. These Special Provisions will conform to the requirements of Section 11-3 of the *BLRS Manual and the BDE Manual, Chapter 66*.

Prior to the Pre-Final and Final Plan submittal, an HLR Senior Project Engineer and/or Senior Structural Engineer will review the specifications and contract documents for Quality Control and Quality Assurance.

The Pre-Final and Final Plan submittal will include a formal Disposition of Comments that addresses all review comments regarding the contract documents from IDOT and any other relevant agency.

Construction Estimate of Cost and Estimate of Time:

HLR will prepare a Construction Estimate of Cost for both pre-final and final submittals. Utilizing the pay items and quantities, the Estimate of Cost will be generated. Itemized costs will be determined using available guides and bid tabulations from similar projects. In addition, the pay item reports with awarded prices from IDOT's website will be used to approximate current unit costs.

BLRS Form 11510 will be used to prepare the cost estimate and will include pay item number, item, unit, quantity, unit cost and total cost.

HLR will prepare an Estimate of Time Required for pre-final and final submittals. Itemized production rates will be determined using established guidelines shown in IDOT Chapter 66 of the Bureau of Design and Environment Manual.

BDE Form 220A will be used to prepare the estimate of time and will include item number, item, unit, quantity, average production rate, and number of working days.

Permitting and Environmental Coordination:

Wetland Permitting (USACE)

Any impacts to Mill Creek or adjacent wetlands that would be under the US Army Corps of Engineers (USACE) jurisdiction will require Section 404 permits. HLR will prepare and obtain any necessary permits from the USACE. HLR will develop a preliminary design that will minimize impacts to the adjacent ROW and therefore possible mitigation requirements.

The following is a summary of permitting requirements. HLR will complete and submit the Joint Application form and other necessary information to obtain a permit from the Chicago District Corps of Engineers. The Joint Application will be simultaneously submitted to the following agencies:

- US Army Corps of Engineers
- US Fish & Wildlife Service
- Illinois Department of Natural Resources (IDNR)
- Illinois Environmental Protection Agency (IEPA)
- Illinois Historic Preservation Agency (IHPA)

The Regional Permits issued by the USACE contain a conditional Section 401 Water Quality Certification built into the permit. If this project qualifies under the Regional Permit program, no separate Section 401 review will be required. For the purposes of this proposal, we will assume Nationwide/Regional permit can be obtained for the project. If an Individual Permit is required, additional scope will be required.

Stormwater Permitting (Lake County)

HLR will prepare the Lake County Stormwater permit application and necessary attachments. The project is located within unincorporated Lake County and therefore the permit and attachments will be submitted to Lake County Planning, Building and Development Department for review and approval.

The stormwater management permit to be submitted will include permit application, narrative, location exhibits, necessary calculations, and the plan set. The Lake County permit application requires a review fee and pre-construction and construction deposits, these fees are not included in the costs outline in this proposal.

A submittal will also be made to LCSMC for review of the erosion control plans.

National Pollutant Discharge Elimination System (NPDES) Permitting

Any project disturbing over 1 acre of land will require an NPDES permit. HLR will prepare and submit the Notice of Intent (NOI) form, Stormwater Pollution Prevention Plan (SWPPP), and Notice of Termination (NOT) as required by this permit if disturbance is greater than 1 acre.

Pre-Phase III and Phase III Activities:

HLR will provide direction and clarification for Request for Information (RFI's). WBK will provide responses to Contractor questions during the bidding process and respond to RFI's.

HLR will provide shop drawing review on all items where review is required by the contract specifications.

HLR will attend the mandatory pre-construction meeting at the IDOT District 1 headquarters.

Meetings and Coordination:

Project kick-off meeting with the Illinois Department of Transportation and Lake County Division of Transportation.

A pre-boring meeting will be conducted on-site to verify the locations of the proposed borings.

Coordination and design meeting with the Lake County Division of Transportation.

Conduct a pre-final plan-in-hand field review meeting with the Lake County Division of Transportation.

A pre-application meeting with the ACOE will be conducted.

A meeting with LCSMC will be conducted.

The work-hour estimate includes time associated with meeting preparation, agendas and exhibits.

The work-hour estimate includes time associated with preparation of meeting minutes and/or technical memorandums.

Project Administration and Management:

The work-hour estimate includes time associated with work plan development, man-power planning, scheduling, contract administration, budget control, internal team meetings, and project close-out.

The work-hour estimate includes time associated with preparation of progress reports.

The work-hour estimate includes time associated with general administration tasks and budget control and invoicing.

HLR will prepare and monitor the 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.

Quality Assurance / Quality Control:

HLR will conduct independent QA/QC reviews to ensure that the preliminary design and project development report meet the approval of the Lake County DOT and the policy guidelines of the FHWA & IDOT. QA/QC reviewers include:

Steve Megginson, P.E., S.E.
Amy McSwane, P.E.

Preliminary Structure Design
Project Development Report

Project Team:

The following team members will be used for this project:

Project Manager	Andy Underwager, P.E., S.E.
Phase I Engineer	Amy McSwane, P.E.
Structural Engineer	Jenn Anderson, P.E., S.E.
Environmental Lead	Erica Spolar
Highway Engineer(s)	Joe Frazee, P.E.
	Dan Sherman, P.E.

**EXHIBIT A - PHASE I PRELIMINARY ENGINEERING SERVICES
Hutchins Road over Mill Creek Culverts**

0

Local Agency Lake County Division of Transportation

*Firm's approved rates on file with IDOT's Bureau of Accounting and Auditing:	
Overhead Rate (OH)	147.00 %
Complexity Factor (R)	0.000
Calendar Days	450

Method of Compensation:

- Cost Plus Fixed Fee 1 14.5%[DL + R(DL) + OH(DL) + IHDC]
- Cost Plus Fixed Fee 2 14.5%[DL + R(DL) + 1.4(DL) + IHDC]
- Cost Plus Fixed Fee 3 14.5%[(2.3 + R)DL + IHDC]
- Specified Rate (0.37 + R) DL
- Lump Sum

Date: 7/21/2017

Cost Estimate of Consultant's Services in Dollars

Element of Work	Employee Classification	Man-Hours	Payroll Rate	Payroll Costs (DL)	Overhead (DLxOH)	Services by Others	In-House Direct Costs (IHDC)	Fixed Fee	Total
1 Field Survey						\$ -	\$ 2,000.00	\$290.00	\$2,290.00
	Technician 1	16.0	\$23.12	\$369.92	\$543.78			\$132.49	\$1,046.19
	Survey 2	56.0	\$40.46	\$2,265.76	\$3,330.67			\$811.48	\$6,407.91
	Survey 1	48.0	\$31.28	\$1,501.44	\$2,207.12			\$537.74	\$4,246.30
2 Utility Identification and Coordination						\$ -	\$ -	\$0.00	\$0.00
	Engineer 4	7.0	\$44.10	\$308.70	\$453.79			\$110.56	\$873.05
	Engineer 3	4.0	\$40.29	\$161.16	\$236.91			\$57.72	\$455.79
	Engineer 1	1.0	\$29.07	\$29.07	\$42.73			\$10.41	\$82.21
	Structural Engineer 2	2.0	\$58.48	\$116.96	\$171.93			\$41.89	\$330.78
	Technician 2	4.0	\$29.87	\$119.48	\$175.64			\$42.79	\$337.91
3 Bridge Condition Report (BCR)						\$ -	\$ 64.20	\$9.31	\$73.51
	Engineer 5	4.0	\$51.00	\$204.00	\$299.88			\$73.06	\$576.94
	Engineer 4	12.0	\$44.10	\$529.20	\$777.92			\$189.53	\$1,496.65
	Engineer 1	24.0	\$29.07	\$697.68	\$1,025.59			\$249.87	\$1,973.14
	Structural Engineer 2	66.0	\$58.48	\$3,859.68	\$5,673.73			\$1,382.34	\$10,915.75
	Structural Engineer 1	104.0	\$43.86	\$4,561.44	\$6,705.32			\$1,633.68	\$12,900.44
	Technician 2	36.0	\$29.87	\$1,075.32	\$1,580.72			\$385.13	\$3,041.17
	Intern/Temporary	24.0	\$17.34	\$416.16	\$611.76			\$149.05	\$1,176.97
4 Environmental Surveys and Permit Coordination						\$ -	\$ 128.40	\$18.62	\$147.02
	Engineer 6	6.0	\$54.40	\$326.40	\$479.81			\$116.90	\$923.11
	Engineer 4	32.0	\$44.10	\$1,411.20	\$2,074.46			\$505.42	\$3,991.08
	Technician 2	4.0	\$29.87	\$119.48	\$175.64			\$42.79	\$337.91
	Technician 1	2.0	\$23.12	\$46.24	\$67.97			\$16.56	\$130.77
	Environmental 2	62.0	\$40.80	\$2,529.60	\$3,718.51			\$905.98	\$7,154.09
	Environmental 1	36.0	\$19.14	\$689.04	\$1,012.89			\$246.78	\$1,948.71
5 Preliminary Environmental Site Assessment (PESA)						\$ -	\$ 2,078.40	\$301.37	\$2,379.77
	Engineer 6	2.0	\$54.40	\$108.80	\$159.94			\$38.97	\$307.71
	Technician 1	3.0	\$23.12	\$69.36	\$101.96			\$24.84	\$196.16
	Environmental 2	20.0	\$40.80	\$816.00	\$1,199.52			\$292.25	\$2,307.77
	Environmental 1	20.0	\$19.14	\$382.80	\$562.72			\$137.10	\$1,082.62
6 Drainage & Hydraulic Studies						\$ -	\$ -	\$0.00	\$0.00
	Engineer 4	64.0	\$44.10	\$2,822.40	\$4,148.93			\$1,010.84	\$7,982.17
	Engineer 3	32.0	\$40.29	\$1,289.28	\$1,895.24			\$461.76	\$3,646.28
	Engineer 1	42.0	\$29.07	\$1,220.94	\$1,794.78			\$437.28	\$3,453.00
	Technician 2	12.0	\$29.87	\$358.44	\$526.91			\$128.38	\$1,013.73
	Administrative 2	8.0	\$37.89	\$303.12	\$445.59			\$108.56	\$857.27

**EXHIBIT A - PHASE I PRELIMINARY ENGINEERING SERVICES
Hutchins Road over Mill Creek Culverts**

0

Local Agency Lake County Division of Transportation

*Firm's approved rates on file with IDOT's Bureau of Accounting and Auditing:	
Overhead Rate (OH)	147.00 %
Complexity Factor (R)	0.000
Calendar Days	450

Method of Compensation:

- Cost Plus Fixed Fee 1 14.5%[DL + R(DL) + OH(DL) + IHDC]
- Cost Plus Fixed Fee 2 14.5%[DL + R(DL) + 1.4(DL) + IHDC]
- Cost Plus Fixed Fee 3 14.5%[(2.3 + R)DL + IHDC]
- Specified Rate (0.37 + R) DL
- Lump Sum

Date: 7/21/2017

Cost Estimate of Consultant's Services in Dollars

Element of Work	Employee Classification	Man-Hours	Payroll Rate	Payroll Costs (DL)	Overhead (DLxOH)	Services by Others	In-House Direct Costs (IHDC)	Fixed Fee	Total
7 Preliminary Design Studies						\$ -	\$ -	\$0.00	\$0.00
	Engineer 5	10.0	\$51.00	\$510.00	\$749.70			\$182.66	\$1,442.36
	Engineer 4	4.0	\$44.10	\$176.40	\$259.31			\$63.18	\$498.89
	Engineer 1	44.0	\$29.07	\$1,279.08	\$1,880.25			\$458.10	\$3,617.43
	Technician 2	38.0	\$29.87	\$1,135.06	\$1,668.54			\$406.52	\$3,210.12
8 Preliminary Bridge Design & Hydraulic Report (PBDHR)						\$ -	\$ -	\$0.00	\$0.00
	Engineer 4	10.0	\$44.10	\$441.00	\$648.27			\$157.94	\$1,247.21
	Structural Engineer 2	4.0	\$58.48	\$233.92	\$343.86			\$83.78	\$661.56
	Structural Engineer 1	7.0	\$43.86	\$307.02	\$451.32			\$109.96	\$868.30
	Technician 2	4.0	\$29.87	\$119.48	\$175.64			\$42.79	\$337.91
	Administrative 1	4.0	\$20.40	\$81.60	\$119.95			\$29.22	\$230.77
9 Public Involvement						\$ -	\$ -	\$0.00	\$0.00
	Engineer 5	6.0	\$51.00	\$306.00	\$449.82			\$109.59	\$865.41
	Engineer 4	24.0	\$44.10	\$1,058.40	\$1,555.85			\$379.07	\$2,993.32
10 Project Development Report (PDR) & Activities						\$ -	\$ -	\$0.00	\$0.00
	Engineer 5	12.0	\$51.00	\$612.00	\$899.64			\$219.19	\$1,730.83
	Engineer 4	62.0	\$44.10	\$2,734.20	\$4,019.27			\$979.25	\$7,732.72
	Structural Engineer 2	2.0	\$58.48	\$116.96	\$171.93			\$41.89	\$330.78
	Technician 2	22.0	\$29.87	\$657.14	\$966.00			\$235.36	\$1,858.50
	Administrative 1	8.0	\$20.40	\$163.20	\$239.90			\$58.45	\$461.55
11 Plats and Legals					\$0.00	\$ -	\$ -	\$0.00	\$0.00
	Technician 1	30.0	\$23.12	\$693.60	\$1,019.59			\$248.41	\$1,961.60
	Survey 2	23.0	\$40.46	\$930.58	\$1,367.95			\$333.29	\$2,631.82
12 Meetings and Coordination						\$ -	\$ -	\$0.00	\$0.00
	Engineer 5	33.0	\$51.00	\$1,683.00	\$2,474.01			\$602.77	\$4,759.78
	Structural Engineer 2	30.0	\$58.48	\$1,754.40	\$2,578.97			\$628.34	\$4,961.71
	Technician 2	2.0	\$29.87	\$59.74	\$87.82			\$21.40	\$168.96
13 Project Administration and Management						\$ -	\$ -	\$0.00	\$0.00
	Engineer 5	21.0	\$51.00	\$1,071.00	\$1,574.37			\$383.58	\$3,028.95
	Structural Engineer 2	23.0	\$58.48	\$1,345.04	\$1,977.21			\$481.73	\$3,803.98
Totals		1176.0		\$ 46,177.89	\$ 67,881.53	\$ -	\$ 4,271.00	\$ 17,157.92	\$ 135,488.34

Route FAU 2648
 Local Agency Lake County
 Section 17-00275-02-BR

WORK HOUR ESTIMATE FOR CONSULTING SERVICES
 EXHIBIT A - PHASE I PRELIMINARY ENGINEERING SERVICES
 Hutchins Road over Mill Creek Culverts

Description	Engineer 6	Engineer 5	Engineer 4	Engineer 3	Engineer 1	Structural Engineer 2	Structural Engineer 1	Technician 2	Technician 1	Intern/Temporary	Survey 2	Survey 1	Environmental 2	Environmental 1	Administrative 2	Administrative 1	Sub-Consultant Costs	In House Direct Costs	
Adjusted Average Hourly Rates	\$54.40	\$51.00	\$44.10	\$40.29	\$29.07	\$58.48	\$43.86	\$29.87	\$23.12	\$17.34	\$40.46	\$31.28	\$40.80	\$19.14	\$37.89	\$20.40			
1 Field Survey																			
1.1 Control											16	16							
1.2 Boundary											24								
1.3 Road Topo												16							
1.4 Stream Survey											16	16							
1.5 CAD									16										
SUB-TOTAL PERCENT	120.0								16.0 13%		56.0 47%	48.0 40%					\$ -	\$ 2,000.00	
2 Utility Identification and Coordination																			
2.1 Utility Investigation (JULIE)					1														
2.2 Update base file								4											
2.3 Prepare and send utility coordination letters			3																
2.4 Coordination			4	4															
SUB-TOTAL PERCENT	18.0		7.0 39%	4.0 22%	1.0 6%	2.0 11%	4.0 22%											\$ -	\$ -
3 Bridge Condition Report (BCR)																			
3.1 Bridge Inspection / Site Visit						4	4												
3.2 Alternatives Analysis										24									
Culvert Rehabilitation - Concrete Liner						8	16	8											
Culvert Rehabilitation - Polyurethane Liner						8	16	8											
Culvert Replacement						24	24	20											
3.3 Estimates of Cost		4	12		24	8	16												
3.3 Prepare and submit Bridge Condition Report						12	24												
3.4 Respond to comments and resubmit						2	4												
SUB-TOTAL PERCENT	270.0	4.0 1%	12.0 4%		24.0 9%	66.0 24%	104.0 39%	36.0 13%		24.0 9%								\$ -	\$ 64.20
4 Environmental Surveys and Permit Coordination																			
4.1 ESR			12					4											
4.2 Wetland Delineatin & Report	1												20	24					
4.3 Tree Survey	1								2				12	12					
4.4 CCDD													30						
4.5 Section 4(f) Lands	4		20																
SUB-TOTAL PERCENT	142.0	6.0 4%	32.0 23%					4.0 3%	2.0 1%				62.0 44%	36.0 25%				\$ -	\$ 128.40
5 Preliminary Environmental Site Assessment (PESA)																			
5.1 PESA Report Generation	2								3				20	20					
SUB-TOTAL PERCENT	45.0	2.0 4%							3.0 7%				20.0 44%	20.0 44%				\$ -	\$ 2,078.40
6 Drainage & Hydraulic Studies																			
6.1 Hydraulic Modeling			24		24														
6.2 Compensatory Storage Calculations			10	10	10			8											
6.3 Scour Evaluation			14	14				4											
6.4 Prepare Hydraulic Report			16	8	8										8				
SUB-TOTAL PERCENT	158.0		64.0 41%	32.0 20%	42.0 27%				12.0 8%						8.0 5%			\$ -	\$ -
7 Preliminary Design Studies																			
7.1 Geometry, profile, cross sections	2	4			8				20										
7.2 Guardrail Analysis	4				12														
7.3 Pavement Design					6														
7.4 MOT		4			18				18										
SUB-TOTAL PERCENT	96.0	10.0 10%	4.0 4%		44.0 46%				38.0 40%									\$ -	\$ -
8 Preliminary Bridge Design & Hydraulic Report (PBDHR)																			
8.1 Prepare BLR 10210 w/ Attachments			8			2	2	4											
8.2 Assemble and submit to IDOT						1	2									4			
8.3 Respond to comments and resubmit			2			1	3												
SUB-TOTAL PERCENT	29.0		10.0 34%			4.0 14%	7.0 24%	4.0 14%								4.0 14%		\$ -	\$ -
9 Public Involvement																			
9.1 Letters to property owners and stakeholders		4	20																
9.2 Respond to comments		2	4																
SUB-TOTAL PERCENT	30.0	6.0 20%	24.0 80%															\$ -	\$ -
10 Project Development Report (PDR) & Activities																			
10.1 Prepare and submit PDR		8	50			1		20											
10.2 Respond to comments, disposition and resubmit		4	12			1		2								4			
SUB-TOTAL PERCENT	106.0	12.0 11%	62.0 58%			2.0 2%		22.0 21%								8.0 8%		\$ -	\$ -
11 Plats and Legals																			
11.1 Park District Legal / Exhibit								6			3								
11.2 Plat of Highway/Legals (4 Parcels)								24			8								
11.3 Calculations																			
SUB-TOTAL PERCENT	53.0								30.0 57%		23.0 43%							\$ -	\$ -
12 Meetings and Coordination																			
12.1 LCDOT Kick-off Meeting (2-persons)		6				6													
12.2 LCDOT Progress Meeting (2-persons)		8				8													
12.3 IDOT Kick-off Meeting (2-persons)		6				6													
12.4 IDOT/FHWA Coordination Meeting (2-persons)		6				6													
12.4 Prepare Agendas/Exhibits for meetings (4-Mtgs.)		2				1		2											
12.5 Prepare Meeting Minutes (4-Mtgs.)		2				1													
12.6 Coordination with Grandwood Park District		3				2													
SUB-TOTAL PERCENT	65.0	33.0 51%				30.0 46%		2.0 3%										\$ -	\$ -
13 Project Administration and Management																			
Account set-up		4				4													
Schedule		4				6													
Invoicing		4				4													
Budget Reviews		3				3													
Progress Reports		6				6													
SUB-TOTAL PERCENT	44.0	21.0 48%				23.0 52%												\$ -	\$ -
TOTALS	1176.0	8.0 1%	86.0 7%	215.0 18%	36.0 3%	111.0 9%	127.0 11%	111.0 9%	122.0 10%	51.0 4%	24.0 2%	79.0 7%	48.0 4%	82.0 7%	56.0 5%	8.0 1%	12.0 1%	\$ -	\$ 4,271.00

**Hutchins Road over Mill Creek Culverts
Lake County Division of Transportation
EXHIBIT A - PHASE I PRELIMINARY ENGINEERING SERVICES**

Development of Project Hourly Rates (IDOT Method)

Item	2017 Actual Rate	2018 Projected @ 3.0% Increase	2019 Projected @ 3.0% Increase	2020 Projected @ 3.0% Increase	2021 Projected @ 3.0% Increase	2022 Projected @ 3.0% Increase
Average Hourly Rate as a Percent of 2017 Rate	100.0%	103.0%	106.1%	109.3%	112.6%	115.9%
Estimated Months of Contract in Given Year	4	8	0	0	0	0
% of Project Duration	33.33%	66.67%	0.00%	0.00%	0.00%	0.00%
Extension	0.333	0.687	0.000	0.000	0.000	0.000
Weighted Project Hourly Rate Multiplier	Note: Salary Adjustments are applied on January 1 of Each Year					1.0200

Project Duration: August 1, 2017 to December 31, 2016 = 12 months

Allowed Percentage Escalation 3.00% 1.030

Local Agency Lake County

Hutchins Road over Mill Creek Culverts
Lake County Division of Transportation
EXHIBIT A - PHASE I PRELIMINARY ENGINEERING SERVICES

Escalation Factor **1.020**

Classification	2017 Actual Rate	Adjusted Rate
Principal	\$ 72.00	\$ 73.44
Engineer 6	\$ 53.33	\$ 54.40
Engineer 5	\$ 50.00	\$ 51.00
Engineer 4	\$ 43.24	\$ 44.10
Engineer 3	\$ 39.50	\$ 40.29
Engineer 2	\$ 35.90	\$ 36.62
Engineer 1	\$ 28.50	\$ 29.07
Structural Engineer 2	\$ 57.33	\$ 58.48
Structural Engineer 1	\$ 43.00	\$ 43.86
Technician 3	\$ 36.25	\$ 36.98
Technician 2	\$ 29.28	\$ 29.87
Technician 1	\$ 22.67	\$ 23.12
Intern/Temporary	\$ 17.00	\$ 17.34
Land Acquisition	\$ 39.00	\$ 39.78
Survey 2	\$ 39.67	\$ 40.46
Survey 1	\$ 30.67	\$ 31.28
Environmental 2	\$ 40.00	\$ 40.80
Environmental 1	\$ 18.76	\$ 19.14
Administrative 2	\$ 37.15	\$ 37.89
Administrative 1	\$ 20.00	\$ 20.40

EXHIBIT A - PHASE I PRELIMINARY ENGINEERING SERVICES

In-House Direct Costs (IHDC)

Local Agency Lake County

Consultant Hampton, Lenzini and Renwick, Inc.

			TASK 1		TASK 2		TASK 3	
			Field Survey		Utility Identification and Coordination		Bridge Condition Report (BCR)	
ITEM	UNITS	UNIT COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST
DIRECT COSTS								
Postage & Shipping (UPS, Fed-Ex)	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Travel Mileage	DAY	\$45.00		\$0.00		\$0.00		\$0.00
Travel Mileage	MILE	\$0.535		\$0.00		\$0.00	120	\$64.20
24 x 36 BW Bond Sheets	SHEET	\$1.08		\$0.00		\$0.00		\$0.00
24 x 36 Color Bond Sheets	SHEET	\$21.00		\$0.00		\$0.00		\$0.00
24 x 36 Mylar Plots	SHEET	\$13.50		\$0.00		\$0.00		\$0.00
24 x 36 Display Boards	EACH	\$33.00		\$0.00		\$0.00		\$0.00
11 x 17 BW Photocopies	SHEET	\$0.18		\$0.00		\$0.00		\$0.00
11 x 17 Color Photocopies	SHEET	\$2.25		\$0.00		\$0.00		\$0.00
8 ½ x 11 BW Photocopies	SHEET	\$0.09		\$0.00		\$0.00		\$0.00
8 ½ x 11 Color Photocopies	SHEET	\$1.25		\$0.00		\$0.00		\$0.00
Small Report Binding	EACH	\$40.00		\$0.00		\$0.00		\$0.00
Medium Report Binding	EACH	\$75.00		\$0.00		\$0.00		\$0.00
Large Report Binding	EACH	\$100.00		\$0.00		\$0.00		\$0.00
Public Notice (News Paper)	UNIT	\$350.00		\$0.00		\$0.00		\$0.00
Survey Equipment (Per Week)	UNIT	\$700.00		\$0.00		\$0.00		\$0.00
Specialty Equipment	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Permit Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Plan/Inspection Review Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Recording Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Title Commitments	EACH	\$500.00	4	\$2,000.00		\$0.00		\$0.00
Right of Entry Agreement	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Special Waste Radius Report	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
CCDD Sampling Testing	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Sub-Totals				\$2,000.00		\$0.00		\$64.20

EXHIBIT A - PHASE I PRELIMINARY ENGINEERING SERVICES

In-House Direct Costs (IHDC)

Local Agency Lake County

Consultant Hampton, Lenzini and Renwick, Inc.

ITEM	UNITS	UNIT COST	TASK 4 Environmental Surveys and Permit Coordination		TASK 5 Preliminary Environmental Site Assessment (PESA)		TASK 6 Drainage & Hydraulic Studies	
			QUANT.	TOTAL COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST
DIRECT COSTS								
Postage & Shipping (UPS, Fed-Ex)	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Travel Mileage	DAY	\$45.00		\$0.00		\$0.00		\$0.00
Travel Mileage	MILE	\$0.535	240	\$128.40	240	\$128.40		\$0.00
24 x 36 BW Bond Sheets	SHEET	\$1.08		\$0.00		\$0.00		\$0.00
24 x 36 Color Bond Sheets	SHEET	\$21.00		\$0.00		\$0.00		\$0.00
24 x 36 Mylar Plots	SHEET	\$13.50		\$0.00		\$0.00		\$0.00
24 x 36 Display Boards	EACH	\$33.00		\$0.00		\$0.00		\$0.00
11 x 17 BW Photocopies	SHEET	\$0.18		\$0.00		\$0.00		\$0.00
11 x 17 Color Photocopies	SHEET	\$2.25		\$0.00		\$0.00		\$0.00
8 ½ x 11 BW Photocopies	SHEET	\$0.09		\$0.00		\$0.00		\$0.00
8 ½ x 11 Color Photocopies	SHEET	\$1.25		\$0.00		\$0.00		\$0.00
Small Report Binding	EACH	\$40.00		\$0.00		\$0.00		\$0.00
Medium Report Binding	EACH	\$75.00		\$0.00		\$0.00		\$0.00
Large Report Binding	EACH	\$100.00		\$0.00		\$0.00		\$0.00
Public Notice (News Paper)	UNIT	\$350.00		\$0.00		\$0.00		\$0.00
Survey Equipment (Per Week)	UNIT	\$700.00		\$0.00		\$0.00		\$0.00
Specialty Equipment	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Permit Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Plan/Inspection Review Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Recording Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Title Commitments	EACH	\$500.00		\$0.00		\$0.00		\$0.00
Right of Entry Agreement	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Special Waste Radius Report	UNIT	\$1.00		\$0.00	350	\$350.00		\$0.00
CCDD Sampling Testing	UNIT	\$1.00		\$0.00	1600	\$1,600.00		\$0.00
Sub-Totals				\$128.40		\$2,078.40		\$0.00

EXHIBIT A - PHASE I PRELIMINARY ENGINEERING SERVICES

In-House Direct Costs (IHDC)

Local Agency Lake County

Consultant Hampton, Lenzini and Renwick, Inc.

			TASK 7 Preliminary Design Studies		TASK 8 Preliminary Bridge Design & Hydraulic Report (PBDHR)		TASK 9 Plats and Legals	
ITEM	UNITS	UNIT COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST
DIRECT COSTS								
Postage & Shipping (UPS, Fed-Ex)	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Travel Mileage	DAY	\$45.00		\$0.00		\$0.00		\$0.00
Travel Mileage	MILE	\$0.535		\$0.00		\$0.00		\$0.00
24 x 36 BW Bond Sheets	SHEET	\$1.08		\$0.00		\$0.00		\$0.00
24 x 36 Color Bond Sheets	SHEET	\$21.00		\$0.00		\$0.00		\$0.00
24 x 36 Mylar Plots	SHEET	\$13.50		\$0.00		\$0.00		\$0.00
24 x 36 Display Boards	EACH	\$33.00		\$0.00		\$0.00		\$0.00
11 x 17 BW Photocopies	SHEET	\$0.18		\$0.00		\$0.00		\$0.00
11 x 17 Color Photocopies	SHEET	\$2.25		\$0.00		\$0.00		\$0.00
8 ½ x 11 BW Photocopies	SHEET	\$0.09		\$0.00		\$0.00		\$0.00
8 ½ x 11 Color Photocopies	SHEET	\$1.25		\$0.00		\$0.00		\$0.00
Small Report Binding	EACH	\$40.00		\$0.00		\$0.00		\$0.00
Medium Report Binding	EACH	\$75.00		\$0.00		\$0.00		\$0.00
Large Report Binding	EACH	\$100.00		\$0.00		\$0.00		\$0.00
Public Notice (News Paper)	UNIT	\$350.00		\$0.00		\$0.00		\$0.00
Survey Equipment (Per Week)	UNIT	\$700.00		\$0.00		\$0.00		\$0.00
Specialty Equipment	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Permit Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Plan/Inspection Review Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Recording Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Title Commitments	EACH	\$500.00		\$0.00		\$0.00		\$0.00
Right of Entry Agreement	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Special Waste Radius Report	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
CCDD Sampling Testing	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Sub-Totals				\$0.00		\$0.00		\$0.00

EXHIBIT A - PHASE I PRELIMINARY ENGINEERING SERVICES

In-House Direct Costs (IHDC)

Local Agency Lake County

Consultant Hampton, Lenzini and Renwick, Inc.

			TASK 10		TASK 11		TASK 12	
			Project Development Report (PDR) & Activities		Plats and Legals		Meetings and Coordination	
ITEM	UNITS	UNIT COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST
DIRECT COSTS								
Postage & Shipping (UPS, Fed-Ex)	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Travel Mileage	DAY	\$45.00		\$0.00		\$0.00		\$0.00
Travel Mileage	MILE	\$0.535		\$0.00		\$0.00		\$0.00
24 x 36 BW Bond Sheets	SHEET	\$1.08		\$0.00		\$0.00		\$0.00
24 x 36 Color Bond Sheets	SHEET	\$21.00		\$0.00		\$0.00		\$0.00
24 x 36 Mylar Plots	SHEET	\$13.50		\$0.00		\$0.00		\$0.00
24 x 36 Display Boards	EACH	\$33.00		\$0.00		\$0.00		\$0.00
11 x 17 BW Photocopies	SHEET	\$0.18		\$0.00		\$0.00		\$0.00
11 x 17 Color Photocopies	SHEET	\$2.25		\$0.00		\$0.00		\$0.00
8 ½ x 11 BW Photocopies	SHEET	\$0.09		\$0.00		\$0.00		\$0.00
8 ½ x 11 Color Photocopies	SHEET	\$1.25		\$0.00		\$0.00		\$0.00
Small Report Binding	EACH	\$40.00		\$0.00		\$0.00		\$0.00
Medium Report Binding	EACH	\$75.00		\$0.00		\$0.00		\$0.00
Large Report Binding	EACH	\$100.00		\$0.00		\$0.00		\$0.00
Public Notice (News Paper)	UNIT	\$350.00		\$0.00		\$0.00		\$0.00
Survey Equipment (Per Week)	UNIT	\$700.00		\$0.00		\$0.00		\$0.00
Specialty Equipment	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Permit Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Plan/Inspection Review Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Recording Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Title Commitments	EACH	\$500.00		\$0.00		\$0.00		\$0.00
Right of Entry Agreement	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Special Waste Radius Report	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
CCDD Sampling Testing	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Sub-Totals				\$0.00		\$0.00		\$0.00

**EXHIBIT B - PHASE II DESIGN ENGINEERING SERVICES
Hutchins Road over Mill Creek Culverts**

0

Local Agency Lake County Division of Transportation

*Firm's approved rates on file with IDOT's Bureau of Accounting and Auditing:	
Overhead Rate (OH)	147.00 %
Complexity Factor (R)	0.000
Calendar Days	450

Method of Compensation:

- Cost Plus Fixed Fee 1 14.5%[DL + R(DL) + OH(DL) + IHDC]
- Cost Plus Fixed Fee 2 14.5%[DL + R(DL) + 1.4(DL) + IHDC]
- Cost Plus Fixed Fee 3 14.5%[(2.3 + R)DL + IHDC]
- Specified Rate (0.37 + R) DL
- Lump Sum

Date: 7/21/2017

Cost Estimate of Consultant's Services in Dollars

Element of Work	Employee Classification	Man-Hours	Payroll Rate	Payroll Costs (DL)	Overhead (DLxOH)	Services by Others	In-House Direct Costs (IHDC)	Fixed Fee	Total
1 Geotechnical Investigation						\$ 14,220.24	\$ -	\$0.00	\$14,220.24
	Engineer 4	1.0	\$45.87	\$45.87	\$67.43			\$16.43	\$129.73
	Structural Engineer 2	1.0	\$60.82	\$60.82	\$89.41			\$21.78	\$172.01
	Structural Engineer 1	2.0	\$45.62	\$91.24	\$134.12			\$32.68	\$258.04
2 Supplemental Surveys						\$ -	\$ 128.40	\$18.62	\$147.02
	Survey 2	16.0	\$42.09	\$673.44	\$989.96			\$241.19	\$1,904.59
	Survey 1	16.0	\$32.54	\$520.64	\$765.34			\$186.47	\$1,472.45
3 Utility Coordination						\$ -	\$ -	\$0.00	\$0.00
	Engineer 4	10.0	\$45.87	\$458.70	\$674.29			\$164.28	\$1,297.27
	Engineer 1	4.0	\$30.24	\$120.96	\$177.81			\$43.32	\$342.09
	Structural Engineer 2	2.0	\$60.82	\$121.64	\$178.81			\$43.57	\$344.02
4 Roadway Design & Plan Preparation						\$ -	\$ 838.80	\$121.63	\$960.43
	Engineer 5	5.0	\$53.05	\$265.25	\$389.92			\$95.00	\$750.17
	Engineer 4	32.0	\$45.87	\$1,467.84	\$2,157.72			\$525.71	\$4,151.27
	Engineer 3	16.0	\$41.91	\$670.56	\$985.72			\$240.16	\$1,896.44
	Engineer 1	40.0	\$30.24	\$1,209.60	\$1,778.11			\$433.22	\$3,420.93
	Structural Engineer 2	1.0	\$60.82	\$60.82	\$89.41			\$21.78	\$172.01
	Technician 3	60.0	\$38.46	\$2,307.60	\$3,392.17			\$826.47	\$6,526.24
	Technician 2	60.0	\$31.06	\$1,863.60	\$2,739.49			\$667.45	\$5,270.54
	Technician 1	60.0	\$24.05	\$1,443.00	\$2,121.21			\$516.81	\$4,081.02
5 Structural Design and Plan Preparation						\$ -	\$ -	\$0.00	\$0.00
	Engineer 1	28.0	\$30.24	\$846.72	\$1,244.68			\$303.25	\$2,394.65
	Structural Engineer 2	58.0	\$60.82	\$3,527.56	\$5,185.51			\$1,263.40	\$9,976.47
	Structural Engineer 1	44.0	\$45.62	\$2,007.28	\$2,950.70			\$718.91	\$5,676.89
	Technician 3	50.0	\$38.46	\$1,923.00	\$2,826.81			\$688.72	\$5,438.53
	Technician 2	50.0	\$31.06	\$1,553.00	\$2,282.91			\$556.21	\$4,392.12
	Technician 1	50.0	\$24.05	\$1,202.50	\$1,767.68			\$430.68	\$3,400.86
6 Quantity Calculations						\$ -	\$ -	\$0.00	\$0.00
	Engineer 4	20.0	\$45.87	\$917.40	\$1,348.58			\$328.57	\$2,594.55
	Engineer 1	32.0	\$30.24	\$967.68	\$1,422.49			\$346.57	\$2,736.74
	Structural Engineer 2	10.0	\$60.82	\$608.20	\$894.05			\$217.83	\$1,720.08
	Structural Engineer 1	4.0	\$45.62	\$182.48	\$268.25			\$65.36	\$516.09
	Technician 3	2.0	\$38.46	\$76.92	\$113.07			\$27.55	\$217.54
	Technician 2	10.0	\$31.06	\$310.60	\$456.58			\$111.24	\$878.42

**EXHIBIT B - PHASE II DESIGN ENGINEERING SERVICES
Hutchins Road over Mill Creek Culverts**

0

Local Agency Lake County Division of Transportation

*Firm's approved rates on file with IDOT's Bureau of Accounting and Auditing:	
Overhead Rate (OH)	147.00 %
Complexity Factor (R)	0.000
Calendar Days	450

Method of Compensation:

- Cost Plus Fixed Fee 1 14.5%[DL + R(DL) + OH(DL) + IHDC]
- Cost Plus Fixed Fee 2 14.5%[DL + R(DL) + 1.4(DL) + IHDC]
- Cost Plus Fixed Fee 3 14.5%[(2.3 + R)DL + IHDC]
- Specified Rate (0.37 + R) DL
- Lump Sum

Date: 7/21/2017

Cost Estimate of Consultant's Services in Dollars

Element of Work	Employee Classification	Man-Hours	Payroll Rate	Payroll Costs (DL)	Overhead (DLxOH)	Services by Others	In-House Direct Costs (IHDC)	Fixed Fee	Total
7 Specifications and Special Provisions						\$ -	\$ -	\$0.00	\$0.00
	Engineer 4	16.0	\$45.87	\$733.92	\$1,078.86			\$262.85	\$2,075.63
	Engineer 1	8.0	\$30.24	\$241.92	\$355.62			\$86.64	\$684.18
	Structural Engineer 2	2.0	\$60.82	\$121.64	\$178.81			\$43.57	\$344.02
	Structural Engineer 1	4.0	\$45.62	\$182.48	\$268.25			\$65.36	\$516.09
	Administrative 2	6.0	\$39.41	\$236.46	\$347.60			\$84.69	\$668.75
8 Construction Estimate of Cost and Estimate of Time						\$ -	\$ -	\$0.00	\$0.00
	Engineer 4	14.0	\$45.87	\$642.18	\$944.00			\$230.00	\$1,816.18
	Structural Engineer 2	2.0	\$60.82	\$121.64	\$178.81			\$43.57	\$344.02
9 Permitting and Environmental Coordination						\$ -	\$ -	\$0.00	\$0.00
	Engineer 6	3.0	\$56.58	\$169.74	\$249.52			\$60.79	\$480.05
	Engineer 4	8.0	\$45.87	\$366.96	\$539.43			\$131.43	\$1,037.82
	Environmental 2	60.0	\$42.44	\$2,546.40	\$3,743.21			\$911.99	\$7,201.60
	Environmental 1	40.0	\$19.90	\$796.00	\$1,170.12			\$285.09	\$2,251.21
10 Pre-Phase III and Phase III Activities						\$ -	\$ 23.54	\$3.41	\$26.95
	Engineer 4	2.0	\$45.87	\$91.74	\$134.86			\$32.86	\$259.46
	Engineer 1	10.0	\$30.24	\$302.40	\$444.53			\$108.30	\$855.23
	Structural Engineer 2	7.0	\$60.82	\$425.74	\$625.84			\$152.48	\$1,204.06
	Structural Engineer 1	6.0	\$45.62	\$273.72	\$402.37			\$98.03	\$774.12
11 Meetings and Coordination					\$0.00	\$ -	\$ 216.14	\$31.34	\$247.48
	Engineer 4	21.0	\$45.87	\$963.27	\$1,416.01			\$345.00	\$2,724.28
	Engineer 1	6.0	\$30.24	\$181.44	\$266.72			\$64.98	\$513.14
	Structural Engineer 2	13.0	\$60.82	\$790.66	\$1,162.27			\$283.17	\$2,236.10
	Environmental 2	12.0	\$42.44	\$509.28	\$748.64			\$182.40	\$1,440.32
12 Project Administration and Management						\$ -	\$ -	\$0.00	\$0.00
	Engineer 4	16.0	\$45.87	\$733.92	\$1,078.86			\$262.85	\$2,075.63
	Structural Engineer 2	22.0	\$60.82	\$1,338.04	\$1,966.92			\$479.22	\$3,784.18
	Technician 2	2.0	\$31.06	\$62.12	\$91.32			\$22.25	\$175.69
Totals		964.0		\$ 37,336.59	\$ 54,884.80	\$ 14,220.24	\$ 1,206.88	\$ 13,547.13	\$ 121,195.64

Route FAU 2648
 Local Agency Lake County Division of Transportation
 Section 17-00275-02-BR

WORK HOUR ESTIMATE FOR CONSULTING SERVICES
 EXHIBIT B - PHASE II DESIGN ENGINEERING SERVICES
 Hutchins Road over Mill Creek Culverts

Description	Engineer 6	Engineer 5	Engineer 4	Engineer 3	Engineer 1	Structural Engineer 2	Structural Engineer 1	Technician 3	Technician 2	Technician 1	Survey 2	Survey 1	Environmental 2	Environmental 1	Administrative 2	Sub-Consultant Costs	In House Direct Costs	
1 Geotechnical Investigation																		
1.1 Borings & SGR																		
1.2 Coordination with sub-consultant			1			1	2									\$ 14,220.24		
SUB-TOTAL PERCENT	4.0		1.0 25%			1.0 25%	2.0 50%									\$ 14,220.24	\$ -	
2 Supplemental Surveys																		
2.1 Pick-up survey											8	8						
2.2 ROW monumentation											8	8						
SUB-TOTAL PERCENT	32.0										16.0 50%	16.0 50%				\$ -	\$ 128.40	
3 Utility Coordination																		
3.1 Identify Conflicts and Coordinate with Utilities			8		2	2												
3.2 Submit pre-final and final plans			2		2													
SUB-TOTAL PERCENT	16.0		10.0 63%		4.0 25%	2.0 13%										\$ -	\$ -	
4 Roadway Design & Plan Preparation																		
4.1 Develop Plan Sheets (Approx. 50 sheets)			20	16	20			60	60	60								
4.2 Guardrail Analysis					8													
4.3 Refine Compensatory Storage Calculations			8															
4.4 Pavement Design					2													
4.5 Submit pre-final and final plans					8													
4.6 Disposition of Comments			1	4	2	1												
4.7 QA/QC			4															
SUB-TOTAL PERCENT	274.0		5.0 2%	32.0 12%	16.0 6%	40.0 15%	1.0 0%	60.0 22%	60.0 22%	60.0 22%						\$ -	\$ 838.80	
5 Structural Design and Plan Preparation																		
5.1 Develop Plan Sheets (Approx. 22 sheets)						24	24	50	50	50								
5.2 Structural Design and Calculations					16	8	16											
5.3 Load Rating Calculations					8	8												
5.4 Disposition of review comments					4	2	4											
5.5 QA/QC						16												
SUB-TOTAL PERCENT	280.0				28.0 10%	58.0 21%	44.0 16%	50.0 18%	50.0 18%	50.0 18%						\$ -	\$ -	
6 Quantity Calculations																		
6.1 Earthwork Calculations			4					2	10									
6.2 Civil Quantities			16		16													
6.3 Structural Quantities					16	4	4											
6.4 QA						6												
SUB-TOTAL PERCENT	78.0		20.0 26%		32.0 41%	10.0 13%	4.0 5%	2.0 3%	10.0 13%							\$ -	\$ -	
7 Specifications and Special Provisions																		
7.1 Civil Specifications			12		8													
7.2 Structural Specifications						2	2											
7.3 Submit pre-final and final specifications															6			
7.4 Respond to review comments			4				2											
SUB-TOTAL PERCENT	36.0		16.0 44%		8.0 22%	2.0 6%	4.0 11%								6.0 17%	\$ -	\$ -	
8 Construction Estimate of Cost and Estimate of Time																		
8.1 Prepare Estimate of Cost			10			1												
8.2 Prepare Estimate of Time			4			1												
SUB-TOTAL PERCENT	16.0		14.0 88%			2.0 13%										\$ -	\$ -	
9 Permitting and Environmental Coordination																		
9.1 Wetland Permitting (USACOE)	1												20	24				
9.2 Stormwater Permit (LCSMC)	1		8										16	16				
9.3 NPDES Permit	1												24					
SUB-TOTAL PERCENT	111.0	3.0 3%	8.0 7%										60.0 54%	40.0 36%		\$ -	\$ -	
10 Pre-Phase III and Phase III Activities																		
10.1 Respond to RFI's			2		2	2	2											
10.2 Shop Drawing Review					8	2	4											
10.3 Preconstruction meeting						3												
SUB-TOTAL PERCENT	25.0		2.0 8%		10.0 40%	7.0 28%	6.0 24%									\$ -	\$ 23.54	
11 Meetings and Coordination																		
11.1 IDOT / LCDOT Kick-off meeting (2-persons)			6			6												
11.2 Pre-boring meeting (1-person)						3												
11.3 LCDOT progress meeting (2-persons)			6		6													
11.4 Plan in-hand field review (2-persons)			3			3												
11.5 ACOE pre-application meeting (1-person)													4					
11.6 LCSMC meeting (1-person)													4					
11.7 Meeting prep. / agendas			3										2					
11.8 Meeting minutes			3			1							2					
SUB-TOTAL PERCENT	52.0		21.0 40%		6.0 12%	13.0 25%							12.0 23%			\$ -	\$ 216.14	
12 Project Administration and Management																		
12.1 Project set-up			2			4			2									
12.2 Scheduling						4												
12.3 Invoicing			6			6												
12.4 Budget			4			4												
12.5 Progress Reports			4			4												
SUB-TOTAL PERCENT	40.0		16.0 40%			22.0 55%			2.0 5%							\$ -	\$ -	
TOTALS PERCENT	964.0	3.0 0%	5.0 1%	140.0 15%	16.0 2%	128.0 13%	118.0 12%	60.0 6%	112.0 12%	122.0 13%	110.0 11%	16.0 2%	16.0 2%	72.0 7%	40.0 4%	6.0 1%	\$ 14,220.24	\$ 1,206.88

**Hutchins Road over Mill Creek Culverts
Lake County Division of Transportation
EXHIBIT B - PHASE II DESIGN ENGINEERING SERVICES**

Development of Project Hourly Rates (IDOT Method)

Item	2017 Actual Rate	2018 Projected @ 3.0% Increase	2019 Projected @ 3.0% Increase	2020 Projected @ 3.0% Increase	2021 Projected @ 3.0% Increase	2022 Projected @ 3.0% Increase
Average Hourly Rate as a Percent of 2017 Rate	100.0%	103.0%	106.1%	109.3%	112.6%	115.9%
Estimated Months of Contract in Given Year	0	0	12	0	0	0
% of Project Duration	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Extension	0.000	0.000	1.061	0.000	0.000	0.000
Weighted Project Hourly Rate Multiplier	Note: Salary Adjustments are applied on January 1 of Each Year					1.0609

Project Duration: January 1, 2019 to December 1, 2019 = 12 months

Allowed Percentage Escalation 3.00% 1.030

Local Agency Lake County Division of Transportation

Hutchins Road over Mill Creek Culverts
Lake County Division of Transportation
EXHIBIT B - PHASE II DESIGN ENGINEERING SERVICES

Escalation Factor **1.061**

Classification	2017 Actual Rate	Adjusted Rate
Principal	\$ 72.00	\$ 76.38
Engineer 6	\$ 53.33	\$ 56.58
Engineer 5	\$ 50.00	\$ 53.05
Engineer 4	\$ 43.24	\$ 45.87
Engineer 3	\$ 39.50	\$ 41.91
Engineer 2	\$ 35.90	\$ 38.09
Engineer 1	\$ 28.50	\$ 30.24
Structural Engineer 2	\$ 57.33	\$ 60.82
Structural Engineer 1	\$ 43.00	\$ 45.62
Technician 3	\$ 36.25	\$ 38.46
Technician 2	\$ 29.28	\$ 31.06
Technician 1	\$ 22.67	\$ 24.05
Intern/Temporary	\$ 17.00	\$ 18.04
Land Acquisition	\$ 39.00	\$ 41.38
Survey 2	\$ 39.67	\$ 42.09
Survey 1	\$ 30.67	\$ 32.54
Environmental 2	\$ 40.00	\$ 42.44
Environmental 1	\$ 18.76	\$ 19.90
Administrative 2	\$ 37.15	\$ 39.41
Administrative 1	\$ 20.00	\$ 21.22

EXHIBIT B - PHASE II DESIGN ENGINEERING SERVICES

In-House Direct Costs (IHDC)

Local Agency Lake County Division of Transportation

Consultant Hampton, Lenzini and Renwick, Inc.

			TASK 1		TASK 2		TASK 3	
			Geotechnical Investigation		Supplemental Surveys		Utility Coordination	
ITEM	UNITS	UNIT COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST
DIRECT COSTS								
Postage & Shipping (UPS, Fed-Ex)	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Travel Mileage	DAY	\$45.00		\$0.00		\$0.00		\$0.00
Travel Mileage	MILE	\$0.535		\$0.00	240	\$128.40		\$0.00
24 x 36 BW Bond Sheets	SHEET	\$1.08		\$0.00		\$0.00		\$0.00
24 x 36 Color Bond Sheets	SHEET	\$21.00		\$0.00		\$0.00		\$0.00
24 x 36 Mylar Plots	SHEET	\$13.50		\$0.00		\$0.00		\$0.00
24 x 36 Display Boards	EACH	\$33.00		\$0.00		\$0.00		\$0.00
11 x 17 BW Photocopies	SHEET	\$0.18		\$0.00		\$0.00		\$0.00
11 x 17 Color Photocopies	SHEET	\$2.25		\$0.00		\$0.00		\$0.00
8 ½ x 11 BW Photocopies	SHEET	\$0.09		\$0.00		\$0.00		\$0.00
8 ½ x 11 Color Photocopies	SHEET	\$1.25		\$0.00		\$0.00		\$0.00
Small Report Binding	EACH	\$40.00		\$0.00		\$0.00		\$0.00
Medium Report Binding	EACH	\$75.00		\$0.00		\$0.00		\$0.00
Large Report Binding	EACH	\$100.00		\$0.00		\$0.00		\$0.00
Public Notice (News Paper)	UNIT	\$350.00		\$0.00		\$0.00		\$0.00
Survey Equipment (Per Week)	UNIT	\$700.00		\$0.00		\$0.00		\$0.00
Specialty Equipment	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Permit Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Plan/Inspection Review Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Recording Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Title Commitments	EACH	\$500.00		\$0.00		\$0.00		\$0.00
Right of Entry Agreement	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Special Waste Radius Report	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
CCDD Sampling Testing	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Sub-Totals				\$0.00		\$128.40		\$0.00

EXHIBIT B - PHASE II DESIGN ENGINEERING SERVICES

In-House Direct Costs (IHDC)

Local Agency Lake County Division of Transportation

Consultant Hampton, Lenzini and Renwick, Inc.

			TASK 4		TASK 5		TASK 6	
			Roadway Design & Plan Preparation		Structural Design and Plan Preparation		Quantity Calculations	
ITEM	UNITS	UNIT COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST
DIRECT COSTS								
Postage & Shipping (UPS, Fed-Ex)	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Travel Mileage	DAY	\$45.00		\$0.00		\$0.00		\$0.00
Travel Mileage	MILE	\$0.535		\$0.00		\$0.00		\$0.00
24 x 36 BW Bond Sheets	SHEET	\$1.08	350	\$378.00		\$0.00		\$0.00
24 x 36 Color Bond Sheets	SHEET	\$21.00		\$0.00		\$0.00		\$0.00
24 x 36 Mylar Plots	SHEET	\$13.50		\$0.00		\$0.00		\$0.00
24 x 36 Display Boards	EACH	\$33.00		\$0.00		\$0.00		\$0.00
11 x 17 BW Photocopies	SHEET	\$0.18	1,960	\$352.80		\$0.00		\$0.00
11 x 17 Color Photocopies	SHEET	\$2.25		\$0.00		\$0.00		\$0.00
8 ½ x 11 BW Photocopies	SHEET	\$0.09	1,200	\$108.00		\$0.00		\$0.00
8 ½ x 11 Color Photocopies	SHEET	\$1.25		\$0.00		\$0.00		\$0.00
Small Report Binding	EACH	\$40.00		\$0.00		\$0.00		\$0.00
Medium Report Binding	EACH	\$75.00		\$0.00		\$0.00		\$0.00
Large Report Binding	EACH	\$100.00		\$0.00		\$0.00		\$0.00
Public Notice (News Paper)	UNIT	\$350.00		\$0.00		\$0.00		\$0.00
Survey Equipment (Per Week)	UNIT	\$700.00		\$0.00		\$0.00		\$0.00
Specialty Equipment	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Permit Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Plan/Inspection Review Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Recording Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Title Commitments	EACH	\$500.00		\$0.00		\$0.00		\$0.00
Right of Entry Agreement	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Special Waste Radius Report	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
CCDD Sampling Testing	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Sub-Totals				\$838.80		\$0.00		\$0.00

EXHIBIT B - PHASE II DESIGN ENGINEERING SERVICES

In-House Direct Costs (IHDC)

Local Agency Lake County Division of Transportation

Consultant Hampton, Lenzini and Renwick, Inc.

ITEM	UNITS	UNIT COST	TASK 7 Specifications and Special Provisions		TASK 8 Construction Estimate of Cost and Estimate of Time		TASK 9 Permitting and Environmental Coordination	
			QUANT.	TOTAL COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST
DIRECT COSTS								
Postage & Shipping (UPS, Fed-Ex)	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Travel Mileage	DAY	\$45.00		\$0.00		\$0.00		\$0.00
Travel Mileage	MILE	\$0.535		\$0.00		\$0.00		\$0.00
24 x 36 BW Bond Sheets	SHEET	\$1.08		\$0.00		\$0.00		\$0.00
24 x 36 Color Bond Sheets	SHEET	\$21.00		\$0.00		\$0.00		\$0.00
24 x 36 Mylar Plots	SHEET	\$13.50		\$0.00		\$0.00		\$0.00
24 x 36 Display Boards	EACH	\$33.00		\$0.00		\$0.00		\$0.00
11 x 17 BW Photocopies	SHEET	\$0.18		\$0.00		\$0.00		\$0.00
11 x 17 Color Photocopies	SHEET	\$2.25		\$0.00		\$0.00		\$0.00
8 ½ x 11 BW Photocopies	SHEET	\$0.09		\$0.00		\$0.00		\$0.00
8 ½ x 11 Color Photocopies	SHEET	\$1.25		\$0.00		\$0.00		\$0.00
Small Report Binding	EACH	\$40.00		\$0.00		\$0.00		\$0.00
Medium Report Binding	EACH	\$75.00		\$0.00		\$0.00		\$0.00
Large Report Binding	EACH	\$100.00		\$0.00		\$0.00		\$0.00
Public Notice (News Paper)	UNIT	\$350.00		\$0.00		\$0.00		\$0.00
Survey Equipment (Per Week)	UNIT	\$700.00		\$0.00		\$0.00		\$0.00
Specialty Equipment	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Permit Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Plan/Inspection Review Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Recording Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Title Commitments	EACH	\$500.00		\$0.00		\$0.00		\$0.00
Right of Entry Agreement	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Special Waste Radius Report	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
CCDD Sampling Testing	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Sub-Totals				\$0.00		\$0.00		\$0.00

EXHIBIT B - PHASE II DESIGN ENGINEERING SERVICES

In-House Direct Costs (IHDC)

Local Agency Lake County Division of Transportation

Consultant Hampton, Lenzini and Renwick, Inc.

			TASK 10		TASK 11		TASK 12	
			Pre-Phase III and Phase III Activities		Meetings and Coordination		Project Administration and Management	
ITEM	UNITS	UNIT COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST	QUANT.	TOTAL COST
DIRECT COSTS								
Postage & Shipping (UPS, Fed-Ex)	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Travel Mileage	DAY	\$45.00		\$0.00		\$0.00		\$0.00
Travel Mileage	MILE	\$0.535	44	\$23.54	404	\$216.14		\$0.00
24 x 36 BW Bond Sheets	SHEET	\$1.08		\$0.00		\$0.00		\$0.00
24 x 36 Color Bond Sheets	SHEET	\$21.00		\$0.00		\$0.00		\$0.00
24 x 36 Mylar Plots	SHEET	\$13.50		\$0.00		\$0.00		\$0.00
24 x 36 Display Boards	EACH	\$33.00		\$0.00		\$0.00		\$0.00
11 x 17 BW Photocopies	SHEET	\$0.18		\$0.00		\$0.00		\$0.00
11 x 17 Color Photocopies	SHEET	\$2.25		\$0.00		\$0.00		\$0.00
8 ½ x 11 BW Photocopies	SHEET	\$0.09		\$0.00		\$0.00		\$0.00
8 ½ x 11 Color Photocopies	SHEET	\$1.25		\$0.00		\$0.00		\$0.00
Small Report Binding	EACH	\$40.00		\$0.00		\$0.00		\$0.00
Medium Report Binding	EACH	\$75.00		\$0.00		\$0.00		\$0.00
Large Report Binding	EACH	\$100.00		\$0.00		\$0.00		\$0.00
Public Notice (News Paper)	UNIT	\$350.00		\$0.00		\$0.00		\$0.00
Survey Equipment (Per Week)	UNIT	\$700.00		\$0.00		\$0.00		\$0.00
Specialty Equipment	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Permit Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Plan/Inspection Review Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Recording Fees	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Title Commitments	EACH	\$500.00		\$0.00		\$0.00		\$0.00
Right of Entry Agreement	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Special Waste Radius Report	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
CCDD Sampling Testing	UNIT	\$1.00		\$0.00		\$0.00		\$0.00
Sub-Totals				\$23.54		\$216.14		\$0.00



July 21st, 2017 / Revised July 24th. 2017

To: Andy Underwager, P.E., S.E.
Hampton, Lenzini and Renwick, Inc.
380 Shepard Drive
Elgin, IL 60123
Phone: 847.697.6700

Re: Proposal - Geotechnical Exploration
Proposed Hutchins Road and Culvert
Improvements
Hutchins Road from Grandwood Drive to
Edgewood Drive
Unincorporated Lake County, Illinois
SN 049-3023
SEC 17-00275-02-BR

Proposal No. Q17.319g REV 1

Via email: aunderwager@hlreng.com

Dear Mr. Underwager,

Rubino Engineering, Inc. (Rubino) is pleased to submit the following proposal to provide geotechnical engineering services for the above referenced project. Rubino received a request for proposal from Andy Underwager of Hampton, Lenzini and Renwick, Inc. via Email on July 18th, 2017.

PROJECT UNDERSTANDING

Rubino understands that the Lake County Division of Transportation (LCDOT) is planning to improvements to Hutchins Road and the Hutchens Road Culvert over Mill Creek in Unincorporated Lake County, Illinois. LCDOT is looking into replacing the existing culvert with a single span bridge structure approximately 40 to 50 feet in length.

Information received:

- RFP Email from Andy Underwager of Hampton, Lenzini and Renwick, Inc. on July 18th, 2017.

Should any of the information on which this proposal has been based, including as described above, be inconsistent with the planned construction, Rubino requests to be contacted immediately in order to make any necessary changes to this proposal and scope of work.

SCOPE OF SERVICES

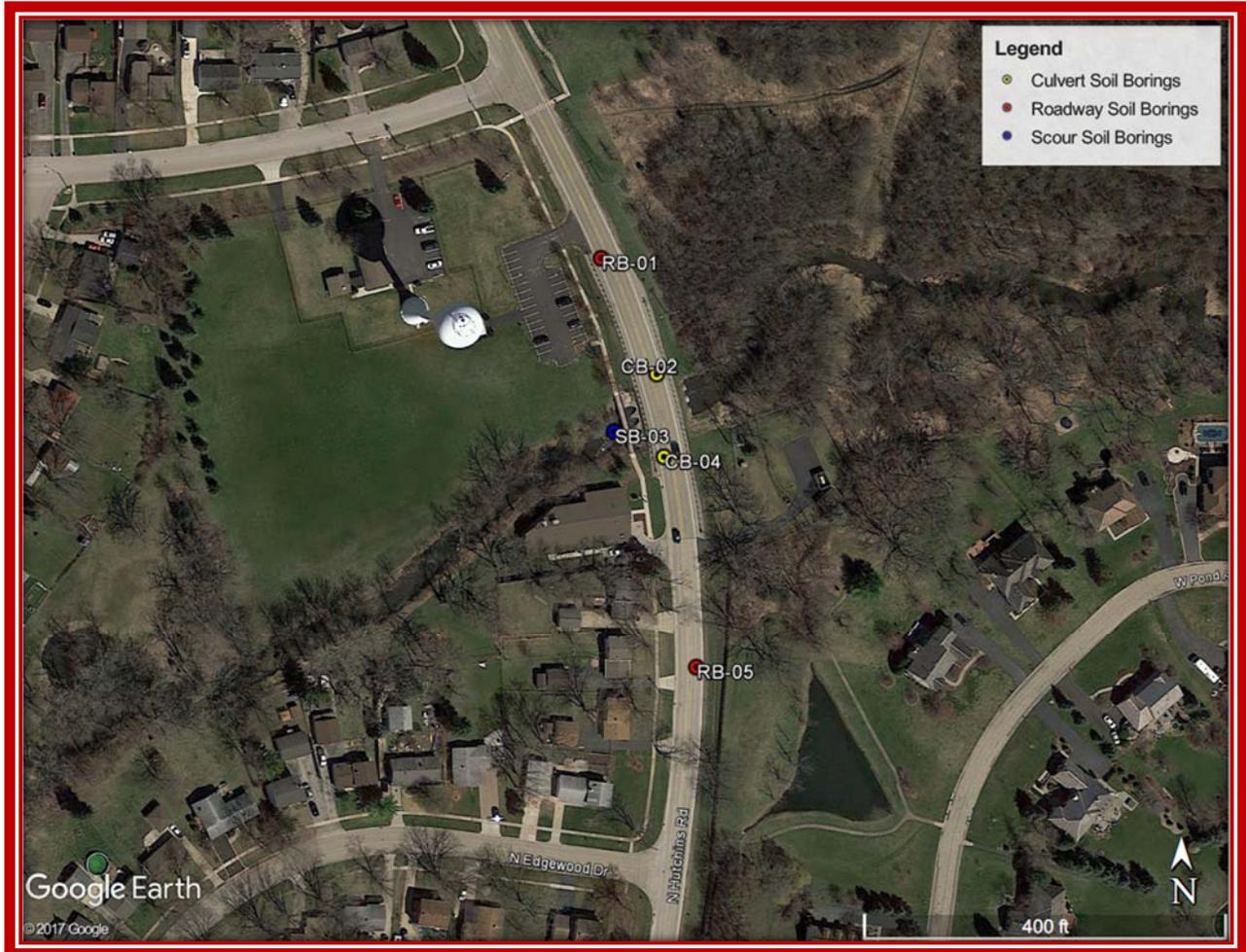
The following sections outline the scope of services developed based on the information provided by the client and the information listed above in order to provide a geotechnical exploration the planned project. The exploration will be performed in general accordance with both the requested proposal information and Rubino's current understanding of the project.

Site Access and Traffic Control

Based on current site topography, surface conditions, and project discussions, Rubino anticipates that the project site will be accessible to track-mounted Geoprobe 7822DT drilling equipment.

Traffic control will consist of cones, Approach signage, and flaggers. Rubino anticipates that the drill rig will require full lane closure.

Boring Locations



Borings and Pavement Cores

To obtain data to evaluate subsurface conditions within the proposed development/construction areas, Rubino proposes to drill soil test borings and perform the pavement core with a Milwaukee Drill and a two foot diamond-bit core barrel as specified below.

NUMBER OF BORINGS	NUMBER OF PAVEMENT CORES	DEPTH (FEET BEG*)	LOCATION
2	2	10 feet	Proposed Roadway
2	N/A	75 feet	Proposed Culvert Replacement
1	N/A	10 feet	Proposed Scour Boring

*BEG = below existing grade

Rubino recommends that the borings and pavement cores be located and surveyed for elevation by others prior to drilling. If the borings and pavement cores cannot be surveyed, Rubino will locate the borings in the field by measuring distances from known, fixed site features.

SPT – IDOT Soil Sampling

Soil sampling will include split-barrel samples (ASTM D 1586) or thin-walled tube samples on cohesive soils (ASTM D 1587) at 2 ½ - foot intervals to a depth of 30 feet.

If unsuitable bearing soils are encountered within the borings as proposed herein, the borings will be extended an additional 5 feet to attempt to end the borings in suitable soils. If unsuitable soils persist at the end of an additional 5 feet the client will be contacted prior to demobilizing.

Unsuitable soils will be defined by field personnel using the following criteria:

- Cohesive soils with an N value less than or equal to 6.
- Granular soils with an N-value less than 10.
- Black cohesive or silty soil with visible signs of organic matter and / or organic odor and low blow counts as described above.

Completion of Borings

Upon completion of drilling, the borings will be backfilled with soil cuttings and capped with similar existing material. Some damage to ground surface may result from the drilling operations near the work areas and along ingress/egress pathways. Rubino will attempt to minimize such damage, but no restoration other than backfilling the soil test borings is included.

It should be noted that over time, some settlement may occur in the bore hole. If Rubino is requested to return to the site for the purpose of filling any bore holes that may have settled, additional time and material charges may apply.

Laboratory Testing

The soil samples obtained during the field exploration program will be transported to the laboratory for classification and a limited number of laboratory tests. The nature and extent of the laboratory testing program is at the discretion of Rubino Engineering, Inc. and will depend upon the subsurface conditions encountered during drilling.

Laboratory testing will be performed in accordance with ASTM procedures and may include examination of selected samples to evaluate the soils’ index properties and relative strength characteristics.

LABORATORY TEST	ESTIMATED QUANTITY	SAMPLE TYPE
Atterberg Limits	5	Split spoon, bulk, or Shelby Tube
Hydrometer	2	Split spoon, bulk, or Shelby Tube
Unconfined Compression Test	2	Shelby Tube
Natural Moisture Content	48	Shelby Tube, Cohesive Samples
Organic Content	5	Split spoon, bulk, or Shelby Tube

GEO REPORT

Upon completion of field and laboratory work, Rubino will prepare a Structure Geotechnical Report (SGR) using the collected data. The SGR will include the following:

- *Summary of client-provided project information and report basis.*
- *Overview of encountered subsurface conditions.*
- *Overview of field and laboratory tests performed including results.*
- *Geotechnical recommendations pertaining to:*
 - *Subgrade preparation and cut / fill recommendations.*
 - *Foundations, including suitable foundation type(s), allowable bearing pressure(s), and estimated settlement – LRFD specifications.*
 - *Seismic design site classification parameters.*
- *Construction considerations, including temporary excavation and construction control of water.*

An electronic copy of the report will be provided. The report will be addressed to Hampton, Lenzini and Renwick, Inc.

PROJECT SCHEDULE

Rubino proposes to initiate work on this project within 5 working days after receiving written authorization to proceed and we will follow the schedule below in order to complete the project:

Task	Number of Working Days
Utility clearance and rig mobilization	10
Field work including site layout and drilling	5
Laboratory Testing	10
Preparation of the Geotechnical Report	10

Project schedules can be affected by weather conditions and changes in scope. If the report needs to be delivered by a specific day, please notify us as soon as possible. Preliminary verbal recommendations can be made to appropriate parties upon completion of the field

investigation and laboratory testing. Rubino will need to receive a signed copy of this proposal intact prior to mobilizing the drill rig.

SPECIAL INSTRUCTIONS

Rubino will coordinate contacting the Utility “One-Call” for public utility clearance prior to the start of drilling activities. It is Rubino’s experience that this service does not mark the locations of privately owned utilities. This proposal is based on private utility lines and other subsurface appurtenances being located in the field by others prior to our mobilization.

FEES

Rubino proposes to charge the fee for performance of the outlined scope of services on a lump-sum basis. Based on the scope of services outlined above, the lump-sum fee will be:

Geotechnical	Drilling and Report Preparation:	\$11,493.40	Lump Sum Not to Exceed
Traffic Control	Flaggers and approach signage	\$2,726.84	Lump Sum Not to Exceed

Please see the attached fee schedule for additional unit rates for services requested after issuing the geotechnical report (drawing / spec review, scope or site layout change, etc.).

Scope Limitations

Project services do not include a site evaluation to determine the presence or absence of wetlands, hazardous substances, or toxic materials.

Rock coring is not included in the scope of this exploration, therefore, the character and continuity of refusal materials, if encountered, can be determined only with a more comprehensive scope of services. Therefore, the borings will be advanced to the depths referenced above, or to refusal, whichever is shallower.

Boring, sampling and testing requirements are a function of the subsurface conditions encountered. The proposed lump sum not to exceed fee is based on the use of deep foundations to support the planned construction and the existence of adequate bearing materials being encountered within the proposed boring depths. Should conditions be encountered which require a deepening of borings or additional investigation, Rubino will notify you to discuss modifying the outlined scope of services. Additional work beyond the lump-sum fee will not be performed without your prior authorization.

AUTHORIZATION

If this proposal is acceptable to you, Rubino will perform the work in accordance with the attached General Conditions that are incorporated into and made a part of this proposal. Please sign below as notice to proceed and return one copy of this proposal intact to our office. Rubino will proceed with the work upon receipt of authorization.

Rubino appreciates the opportunity to offer our services for this project and we look forward to working with your company. Please contact Rubino with questions pertaining to this proposal or requests for additional services.

Respectfully submitted,

RUBINO ENGINEERING, INC.



Michelle A. Lipinski, PE
President



RUBINO ENGINEERING, INC. IS:
AN AASHTO-ACCREDITED LABORATORY
IDOT PREQUALIFIED
IDOT DBE-CERTIFIED (100% WOMAN-OWNED)

MAL/file

Attachments: Proposal Acceptance and Data Sheet
 Schedule of Services and Fees
 General Conditions

**This is an electronic copy. Hard Copies of this proposal are available upon request.

PROPOSAL ACCEPTANCE:

AGREED TO, THIS _____	DAY OF _____	, 201__.
BY (please print): _____		
TITLE: _____		
COMPANY: _____		
SIGNATURE: _____		

PROJECT INFORMATION:

1. Project Name: _____
2. Project Location: _____
3. Your Job No: _____ Purchase Order No.: _____
4. Project Manager: _____ Telephone No.: _____
5. Site Contact: _____ Telephone No.: _____
6. Number and Distribution of Reports:
() Copies To: _____ () Copies To: _____

Attn: _____ Attn: _____
Email: _____ **Email:** _____

() Copies To: _____ () Copies To: _____

Attn: _____ Attn: _____
Email: _____ **Email:** _____
7. Invoicing Address: _____

Attn: _____
Email: _____
8. Other Pertinent Information Or Previous Subsurface Information Available:

**Rubino Engineering, Inc.
 2017 Schedule of Geotechnical Services & Fees**

ENGINEERING

Professional and Technical Services for site evaluation, field supervision, analysis of test data and engineering recommendations and consultation:

Principal Engineer	Per Hour	\$	150.00
Project Engineer/Manager	Per Hour	\$	125.00
Engineering Field Technician / Field Engineer / Field Geologist	Per Hour	\$	91.00
Secretarial Services	Per Hour	\$	65.00

SUBSURFACE EXPLORATION

Mobilization and moving of truck-mounted drilling equipment and crew	Per Trip	\$	550.00
Mobilization and moving of All-Terrain-Vehicle (ATV) - mounted drilling equipment and crew	Per Trip	\$	660.00
All-Terrain Vehicle (ATV) Usage Surcharge	Per Day	\$	195.00
Boring Layout - Two-man crew (2 hour minimum)	Per Hour	\$	166.00
Soil Sampling using split-barrel sampler (ASTM D-1586) 2.5-foot intervals to 15 feet and 5-foot intervals thereafter, 3-1/4" E.D. HAS:			

Depth Range	Easy Drilling*	Hard Drilling**
Feet		
0 - 25	\$24.50	\$27.00
25 - 50	\$26.50	\$29.00
50 - 72	\$30.50	\$31.00
75 - 100	\$32.00	\$33.50

* Less than 50 blows per foot or a Qp of 4 tsf

** 50 blows or more per foot, Qp more than 4 tsf, or strata containing coarse gravel or cobbles

Hourly Rate Drilling (difficult or unusual conditions, hard material, boulders, rubble, etc.)	Per Hour	\$	325.00
Thin Wall Tubes (ASTM D-1587)	Each	\$	50.00

LABORATORY TESTING

Moisture Content Test / Visual Classification	Each	\$	6.00
Atterberg Limits Determination (LL, PL)	Each	\$	85.00
Combined Hydrometer & Sieve Analysis	Each	\$	130.00
Sieve Analysis (washed)	Each	\$	85.00
Unconfined Compression Test, Tube Sample	Each	\$	35.00
Unconfined Compression Test, with Stress-Strain Curve	Each	\$	55.00
Density Determination	Each	\$	15.00
Specific Gravity Determination	Each	\$	65.00
Organic Content Determination Test (wet combustion)	Each	\$	25.00
ASTM D698 - AASHTO T99 (Standard Proctor)	Each	\$	195.00
ASTM D1557 - AASHTO T180 (Modified Proctor)	Each	\$	215.00
One-Dimensional Consolidation Test (ASTM D-2435)	Each	\$	750.00

FEE REMARKS

- 1) All fees and services are provided in accordance with the attached Rubino General Conditions.
- 2) Unit prices/rates are in effect for 12 months from the date of this proposal and are subject to change without notice thereafter. Overtime rates are applicable for services performed in excess of 8 hours per day Monday through Friday, before 8:00 AM or after 5:00 PM, and for all hours worked on Saturdays, Sundays and holidays. The overtime rate is 1.5 times the applicable hourly rate.
- 3) All rates are billed on a portal-to-portal basis.
- 4) Standby time due to delays beyond Rubino's control will be charged at the applicable hourly rate.
- 5) Transportation and per diem are charged at the applicable rates.
- 6) Rates involving mileage (including transportation, mobilization, vehicle and trip charges) are subject to change based upon increases in the national average gasoline price.
- 7) A minimum charge of 4 hours applies to field testing and observation services. Scheduling or cancellation of field testing and observation services is required no less than the working day prior to the date the services are to be performed. Services cancelled without advance and/or inadequate notice will be assessed a minimum charge of 4 hours.
- 8) For all Rubino services, a project management/engineering review charge will be billed for all reports issued for the scheduling/supervision of personnel and the evaluation/review of data and reports.
- 9) The minimum billing increment for time is a half hour.
- 10) A project set-up charge of a minimum of two hours applies to all projects.
- 11) Professional services rates are exclusive of expert deposition or testimony time.
- 12) Drilling and field service rates are based on OSHA Level D personnel protection.
- 13) For sites where drilling is to occur that are not readily accessible to a truck mounted drill rig, rates for rig mobility, site clearing, crew stand-by time, etc. will be charged as applicable.
- 14) If applicable the prevailing wage fees charged under this agreement will be adjusted if there is any change in the applicable prevailing wage rate established by the Illinois Department of Labor.
- 15) Services and fees not listed on this schedule may be quoted on request.
- 16)
- 17)

GENERAL CONDITIONS

1. PARTIES AND SCOPE OF SERVICES: Rubino Engineering, Inc. shall include said company or its particular division, subsidiary or affiliate performing the services. "Services" means the specific geotechnical, analytical, testing or other service to be performed by Rubino Engineering, Inc. as set forth in Rubino Engineering, Inc.'s proposal, Client's acceptance thereof and these General Conditions. Additional services ordered by Client shall also be subject to these General Conditions. "Client" refers to the person or business entity ordering the services to be done by Rubino Engineering, Inc. If Client is ordering the services on behalf of another, Client represents and warrants that it is the duly authorized agent of said party for the purpose of ordering and directing said services. Unless otherwise stated in writing, Client assumes sole responsibility for determining whether the quantity and the nature of the services ordered by the client is adequate and sufficient for Client's intended purpose. Client shall communicate these General Conditions to each and every third party to whom Client transmits any part of Rubino Engineering, Inc.'s services. Rubino Engineering, Inc. shall have no duty or obligation to any third party greater than that set forth in Rubino Engineering, Inc.'s proposal, Client's acceptance thereof and these General Conditions. The ordering of services from Rubino Engineering, Inc., or the reliance on any of Rubino Engineering, Inc.'s work, shall constitute acceptance of the terms of Rubino Engineering, Inc.'s proposal and these General Conditions, regardless of the terms of any subsequently issued document.

2. TESTS AND INSPECTIONS: Client shall cause all tests and inspection of the site, materials and work performed by Rubino Engineering, Inc. or others to be timely and properly performed in accordance with the plans, specifications and contract documents and Rubino Engineering, Inc.'s recommendations. No claims for loss, damage or injury shall be brought against Rubino Engineering, Inc. by Client or any third party unless all tests and inspections have been so performed and unless Rubino Engineering, Inc.'s recommendations have been followed. Client agrees to indemnify, defend and hold Rubino Engineering, Inc., its officers, employees and agents harmless from any and all claims, suits, losses, costs and expenses, including, but not limited to, court costs and reasonable attorney's fees in the event that all such tests and inspections are not so performed or Rubino Engineering, Inc.'s recommendations are not so followed except to the extent that such failure is the result of the negligence, willful or wanton act of omission of Rubino Engineering, Inc., its officers, agents or employees, subject to the limitation contained in paragraph 9.

3. SCHEDULING OF SERVICES: The services set forth in Rubino Engineering, Inc.'s proposal and Client's acceptance will be accomplished in a timely, workmanlike and professional manner by RUBINO ENGINEERING, INC. personnel at the prices quoted. If Rubino Engineering, Inc. is required to delay commencement of the services or if, upon embarking upon its services, Rubino Engineering, Inc. is required to stop or interrupt the progress of its services as a result of changes in the scope of the services requested by Client, to fulfill the requirements of third parties, interruptions in the progress of construction, or other causes beyond the direct reasonable control of Rubino Engineering, Inc., additional charges will be applicable and payable by Client.

4. ACCESS TO SITE: Client will arrange and provide such access to the site as is necessary for Rubino Engineering, Inc. to perform the services. Rubino Engineering, Inc. shall take reasonable measures and precautions to minimize damage to the site and any improvements located thereon as the result of its services or the use of its equipment; however, Rubino Engineering, Inc. has not included in its fee the cost of restoration of damage which may occur. If Client desires or requires Rubino Engineering, Inc. to restore the site to its former condition, upon written request Rubino Engineering, Inc. will perform such additional services as is necessary to do so and Client agrees to pay Rubino Engineering, Inc. for the cost.

5. CLIENT'S DUTY TO NOTIFY ENGINEER: Client represents and warrants that it has advised Rubino Engineering, Inc. of any known or suspected hazardous materials, utility lines and pollutants at any site at which Rubino Engineering, Inc. is to perform services hereunder, and unless Rubino Engineering, Inc. has assumed in writing the responsibility of locating subsurface objects, structures, lines or conduits. Rubino Engineering, Inc. may use such information in performing its services and is entitled to rely upon the accuracy and completeness thereof. Client agrees to defend, indemnify and save Rubino Engineering, Inc. harmless from all claims, suits, losses costs and expenses, including reasonable attorney's fees as a result of personal injury, death or property damage occurring with respect to Rubino Engineering, Inc.'s performance of its work and resulting to or caused by contact with subsurface of latent objects, structures, lines or conduits where the actual or potential presence and location thereof were not revealed to Rubino Engineering, Inc. by Client and/or by any of Client's subcontractors or sub consultants

6. RESPONSIBILITY: Rubino Engineering, Inc.'s services shall not include determining, supervising or implementing the means, methods, techniques, sequences or procedures of construction. Rubino Engineering, Inc. shall not be responsible for evaluating, reporting or affecting job conditions concerning health, safety or welfare. Rubino Engineering, Inc.'s services or failure to perform same shall not in any way excuse any contractor, subcontractor or supplier from performance of its work in accordance with the contract documents. Rubino Engineering, Inc. has no right or duty to stop the contractor's work.

7. SAMPLE DISPOSAL: Unless otherwise agreed in writing, test specimens or samples will be disposed immediately upon completion of the test. All drilling samples or specimens will be disposed sixty (60) days after submission of Rubino Engineering, Inc.'s report.

8. PAYMENT: Client shall be invoiced once each month for services performed during the preceding period. Client agrees to pay each invoice within thirty (30) days of its receipt. Client further agrees to pay interest on all amounts invoiced and not paid or objected to for valid cause in writing with said thirty (30) day period at the rate of eighteen (18) percent per annum (or the maximum interest rate permitted under applicable law), until paid. Client agrees to pay Rubino Engineering, Inc.'s cost of collection of all amounts due and unpaid after sixty (60) days, including court costs and reasonable attorney's fees. Rubino Engineering, Inc. shall not be bound by any provision or agreement requiring or providing for arbitration or disputes or controversies arising out of this agreement, any provision wherein Rubino Engineering, Inc. waives any rights to a mechanics' lien, or any provision conditioning Rubino Engineering, Inc.'s right to receive payment for its services upon payment to Client by any third party. These General Conditions are notice, where required, that Rubino Engineering, Inc. shall file a lien whenever necessary to collect past due amounts. Release of such lien shall be given only when payment in full has been received for services duly rendered. Failure to make payment within thirty (30) days of invoice shall constitute a release of Rubino Engineering, Inc. from any and all claims which Client may have, whether in tort, contract or otherwise and whether known or unknown at the time.

9. STANDARD OF CARE: RUBINO ENGINEERING, INC.'S SERVICES WILL BE PERFORMED, ITS FINDINGS OBTAINED AND ITS REPORTS PREPARED IN ACCORDANCE WITH ITS PROPOSAL, CLIENT'S ACCEPTANCE THEREOF, THESE GENERAL CONDITIONS AND WITH GENERALLY ACCEPTED PRINCIPLES AND PRACTICES. IN PERFORMING ITS PROFESSIONAL SERVICES, RUBINO ENGINEERING, INC. WILL USE THAT DEGREE OF CARE AND SKILL ORDINARILY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY MEMBERS OF ITS PROFESSION. RUBINO ENGINEERING, INC. MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, IN CONNECTION WITH ITS SERVICES PROVIDED AS SET FORTH IN ITS PROPOSAL, CLIENT'S ACCEPTANCE THEREOF, AND THESE GENERAL CONDITIONS. STATEMENTS MADE IN RUBINO ENGINEERING, INC. REPORTS ARE OPINIONS BASED UPON ENGINEERING JUDGMENT AND ARE NOT TO BE CONSTRUED AS REPRESENTATIONS OF FACT.

SHOULD RUBINO ENGINEERING, INC. OR ANY OF ITS PROFESSIONAL EMPLOYEES BE FOUND TO HAVE BEEN NEGLIGENT IN THE PERFORMANCE OF ITS WORK, OR TO HAVE MADE AND BREACHED ANY EXPRESSED OR IMPLIED WARRANTY, REPRESENTATION OR CONTRACT, CLIENT, ALL PARTIES CLAIMING THROUGH CLIENT AND ALL PARTIES CLAIMING TO HAVE IN ANY WAY RELIED UPON RUBINO ENGINEERING, INC.'S WORK, AGREE THAT THE MAXIMUM AGGREGATE AMOUNT OF THE LIABILITY OF RUBINO ENGINEERING, INC., ITS OFFICERS, EMPLOYEES AND AGENTS SHALL BE LIMITED TO \$10,000.00 OR THE TOTAL AMOUNT OF THE FEE PAID TO RUBINO ENGINEERING, INC. FOR ITS WORK PERFORMED WITH RESPECT TO THE PROJECT, WHICHEVER AMOUNT IS GREATER.

NO ACTION OR CLAIM, WHETHER IN TORT, CONTRACT OR OTHERWISE, MAY BE BROUGHT AGAINST RUBINO ENGINEERING, INC., ARISING FROM OR RELATED TO RUBINO ENGINEERING, INC.'S WORK, MORE THAN TWO (2) YEARS AFTER THE CESSATION OF RUBINO ENGINEERING, INC.'S WORK HEREUNDER.

10. INDEMNITY: To the fullest extent permitted by law, Client and Rubino Engineering, Inc. each agree to indemnify the other party and the other party's officers, directors, partners, employees, and representatives, from and against losses, damages, and judgments arising from claims by third parties, including reasonable attorneys' fees and expenses recoverable under applicable law, but only to the extent they are found to be caused by a negligent act, error, or omission of the indemnifying party or any of the indemnifying party's officers, directors, members, partners, agents, employees, subcontractors, or subconsultants in the performance of services under this Agreement. If claims, losses, damages, and judgments are found to be caused by the joint or concurrent negligence of Client and Rubino Engineering, Inc., they shall be borne by each party in proportion to its negligence.

11. TERMINATION: This Agreement may be terminated by either party upon seven (7) days' prior written notice. In the event of termination, Rubino Engineering, Inc. shall be compensated by Client for all services performed up to and including the termination date, including reimbursable expenses and for the completion of such services and records as are necessary to place Rubino Engineering, Inc.'s files in order and/or protect its professional reputation. Failure of Client to make payments when due shall be cause for suspension of services or, ultimately, termination, unless and until Rubino Engineering Inc. has been paid in full all amounts due for services, expenses and other related changes.

12. DISPUTE RESOLUTION: In the event of a dispute arising out of or relating to this Agreement or the services to be rendered hereunder, the Client and Rubino Engineering, Inc. agree to attempt to resolve such disputes in the following manner: 1) The parties agree to attempt to resolve any and all unsettled claims, counterclaims, disputes and other matters in question through direct negotiations between the appropriate representatives of each party; 2) If such negotiations are not fully successful, the parties agree to submit any and all remaining unsettled claims, counterclaims, disputes and other matters in question to mediation in accordance with the Construction Industry Mediation Rules of the American Arbitration Association, effective as of the date of this Agreement.

13. WITNESS FEES: Rubino Engineering, Inc.'s employees shall not be retained as expert witnesses except by separate written agreement. Client agrees to pay Rubino Engineering, Inc.'s legal expenses, administrative costs and fees pursuant to Rubino Engineering, Inc.'s then current fee schedule for Rubino Engineering, Inc. to respond to any subpoena.

14. NO HIRE: Client agrees not to hire Rubino Engineering, Inc.'s employees except through Rubino Engineering, Inc. In the event Client hires a Rubino Engineering, Inc. employee, Client shall pay Rubino Engineering, Inc. an amount equal to one-half of the employee's annualized salary, with Rubino Engineering, Inc. waiving other remedies it may have.

15. HAZARDOUS MATERIALS: Nothing contained within this agreement shall be construed or interpreted as requiring Rubino Engineering, Inc. to assume the status of an owner, operator, generator, storer, transporter, treater or disposal facility as those terms appear within RCRA, CERCLA, or within any Federal or State statute or regulation governing the generation, transportation, treatment, storage and disposal of pollutants. Client assumes full responsibility for compliance with the provisions of RCRA, CERCLA, and any other Federal or State statute or regulation governing the handling, treatment, storage and disposal of pollutants.

16. PROVISIONS SEVERABLE: The parties have entered into this agreement in good faith and it is the specific intent of the parties that the terms of the General Conditions be enforced as written. In the event any of the provisions of these General Conditions should be found to be unenforceable, it shall be stricken and the remaining provisions shall be enforceable.

17. ENTIRE AGREEMENT: This agreement constitutes the entire understanding of the parties, and there are no representations, warranties or undertakings made other than as set forth herein. This agreement may be amended, modified or terminated only in writing, signed by each of the parties hereto.

Rubino Engineering, Inc.

**PAYROLL ESCALATION TABLE
FIXED RAISES**

FIRM NAME Rubino Engineering, Inc.
PRIME/SUPPLEMENT _____

DATE 07/25/17
PTB NO. _____

CONTRACT TERM 12 MONTHS
START DATE 8/1/2017
RAISE DATE 3/1/2018

OVERHEAD RATE 174.99%
COMPLEXITY FACTOR 0
% OF RAISE 3.00%

ESCALATION PER YEAR

8/1/2017 - 3/1/2018
7

12

3/2/2018 - 8/1/2018
5

12

= 58.33%
= 1.0125

42.92%

The total escalation for this project would be:

1.25%

PAYROLL RATES

FIRM NAME Rubino Engineering, Inc DATE 07/25/17
 PRIME/SUPPLEMENT _____
 PSB NO. _____

ESCALATION FACTOR 1.25%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
Material Tester 1 & 2	\$35.34	\$35.78
Project Manager	\$31.25	\$31.64
Administrative	\$21.78	\$22.05
Professional Engineer	\$52.20	\$52.85
Staff Engineer/Geologist	\$27.90	\$28.25
Driller	\$52.54	\$53.20
Laboratory Tech / Flagger	\$26.00	\$26.33

Vertical sidebar containing:
 - Logo with 'An' in white on a blue background.
 - Text 'SUBM' in white on a grey background.
 - Text 'PAYROLL SUMM' in white on a blue background.
 - Text 'DO NOT SKIP F' in red.
 - Section header 'PAYROLL TITLE' in white on a blue background.
 - List of payroll titles: Material Tester, Project Manage, Administrative, Professional En, Staff Engineer /, Driller, Laboratory Tech.

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Paula J. Trigg, P.E.
Director of Transportation/
County Engineer

600 W. Winchester Road
Libertyville, Illinois 60048-1381
Phone 847-377-7400
Fax 847-984-5888

PROJECT SCOPING REPORT

Admin: PT, AG Traffic: JN Construction: GP, SH **Final - for your files**
 To: Design: MZ, ROW, Project File Maintenance: KK, LS GIS: BM **Date: 06/16/17**
 Planning: EK, BC, BD, PS, GH **PM: none assigned** **Engineer: Mike Zemaitis**

PROPOSED IMPROVEMENT

Road(s): Hutchins Road Section Number: 17-00275-02-BR
 From: at Mill Creek To: _____
 Omission(s): _____ Total Project Length: _____ feet

- | | | | | |
|------------------------------|--|---|---|--|
| Roadway Bridge | <input checked="" type="checkbox"/> ROW Required | <input type="checkbox"/> Intersection | <input type="checkbox"/> Storm Sewer | <input type="checkbox"/> Detention Required |
| 2 Lane Section | <input checked="" type="checkbox"/> Easements Required | <input type="checkbox"/> Traffic Signals | <input type="checkbox"/> Cross Road Culvert(s) | <input checked="" type="checkbox"/> Floodplain Impacts |
| Consultant Design | <input type="checkbox"/> Crown Correction | <input type="checkbox"/> Auxiliary Lane(s) | <input checked="" type="checkbox"/> Guardrail | <input checked="" type="checkbox"/> Wetlands Impacts |
| PS&E | <input type="checkbox"/> Super Correction | <input checked="" type="checkbox"/> Utility Conflict(s) | <input checked="" type="checkbox"/> Curb and Gutter | <input type="checkbox"/> Affects IL Natural Area |
| Contract Construction | <input type="checkbox"/> Grade Correction | <input type="checkbox"/> Pavement Cores | <input type="checkbox"/> Patch Max _____ % | <input checked="" type="checkbox"/> PESA Required |

PROPOSED PAVEMENT

Pavement Width 12 feet	Maximum Roll-over 8 %	<input type="checkbox"/> Multiple Proposed Pavements ...See Additional Information for Details
Shoulder Width 8 feet	<input checked="" type="checkbox"/> 80K Design	

Overlay	Full Depth		Non-Motorized Travel Investments (NMTI)
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Milling
<input type="checkbox"/>	<input checked="" type="checkbox"/>		Surface Course
<input type="checkbox"/>	<input checked="" type="checkbox"/>		Binder Course
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Crack Control Fabric
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Leveling Course
<input type="checkbox"/>	<input checked="" type="checkbox"/>	12"	Aggregate Subgrade, 12"
			<input type="checkbox"/> Recycling (Base) <input type="checkbox"/> Native Plants <input type="checkbox"/> Retention <input type="checkbox"/> Recycling (Pavement) <input type="checkbox"/> Bioswales <input type="checkbox"/> Other

EXISTING PAVEMENT

Base Type: Aggregate Subgrade 12"	Year Last Resurfaced? 2008	<input type="checkbox"/> Multiple Existing Pavements ...See Additional Information for Details
Base Width: 30 feet	Surface Width: 28 feet	

TRAFFIC

ADT: 4052	Year: 2015	TRAFFIC STUDY BY: <input type="checkbox"/> LCDOT <input type="checkbox"/> CONSULTANT
PV 94.14% SU 3.91% MU 1.95%	Year: 2015	
<input type="checkbox"/> Multiple ADT's...See Additional Information for Details		<input type="checkbox"/> Intersection studies. <input type="checkbox"/> Submittal to IDOT. <input checked="" type="checkbox"/> No intersections studied. (No earthwork)
Posted Speed: 35 mph	85 th % Speed: _____ mph	
<input type="checkbox"/> Multiple Posted Speeds...See Additional Information for Details		
Construction Zone Speed Limit: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Location for Accident Analysis: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

DETOUR

Detour Not Necessary Detour Necessary Possible Route: *Stearns School Rd – Hunt Club Rd – IL Rt 132*
 PLEASE RESPOND TO THE POSSIBLE DETOUR ROUTE ON COMMENT SHEET Other projects in area at same time? NO YES

PROJECT COSTS	ESTIMATE	CPMS
ROW		\$24,000
Preliminary Engineering		\$315,000
Design Engineering		\$120,000
Phase III Engineering		\$120,000
Construction		\$1,200,000
Total		\$1,779,000

PROPOSED SCHEDULE
Appropriation:
PS & E to IDOT:
Letting:
Begin Construction:
End Construction:

CPMS Needs Revision CPMS PIN # b-01372a YEARS 17-22 Version # 2b

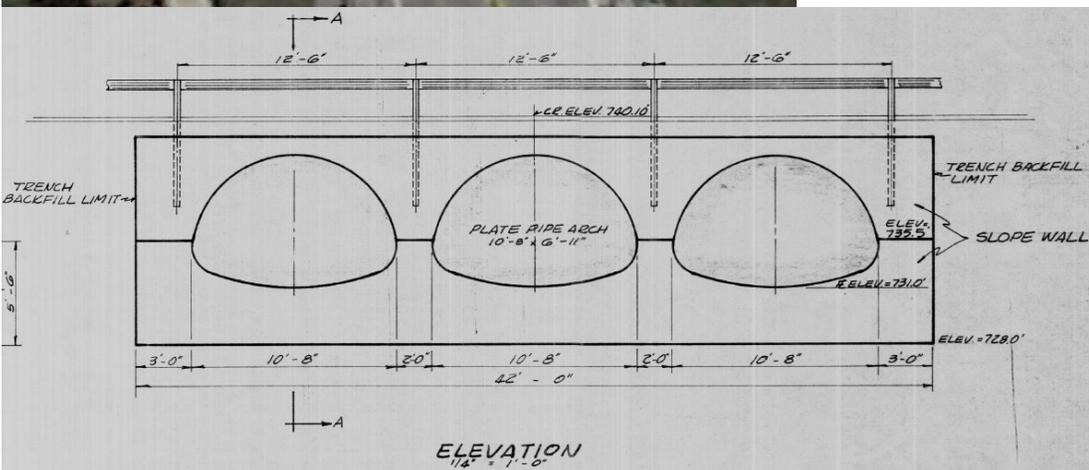
Project Scoping Report	Project	Hutchins Road at Mill Creek Bridge	Additional Information
	Section	17-00275-02-BR	

Existing Conditions

This project includes replacing or repairing the triple barrel culvert installation under Hutchins Road at Mill Creek, about 0.5 miles north of IL Rt 132. The culverts are 10'-8" wide x 6'-11" height x 69' length, and were installed in 1969 (in place 48 years). The west end of the culverts has a concrete slopewall. The east culvert ends project from the foreslope without a headwall.

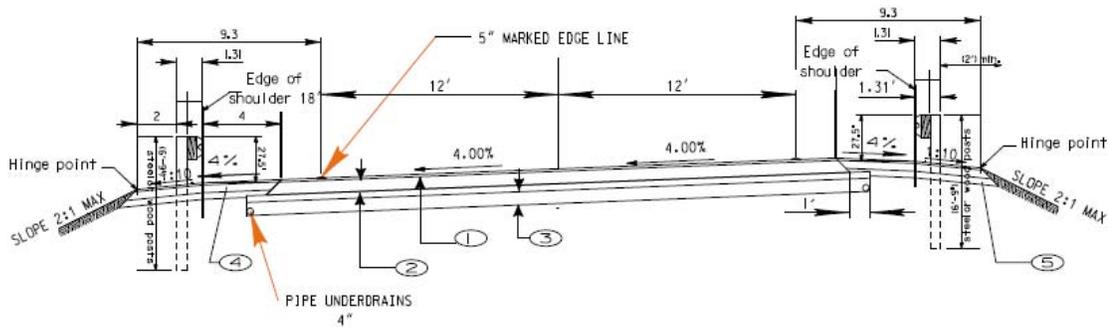
An inspection report prepared by Hampton, Lenzini, and Renwick Inc. found the culverts to be in overall poor condition, with corrosion and section loss up to the water line. The expected remaining life of the culverts was 5 to 7 years, as of the 8/20/15 report.

The culverts were installed slightly skewed with the centerline of Mill Creek. This may be contributing to the silt accumulation inside the culverts as well as adjacent the culvert ends that may be partially a result of the installation angle.



Existing elevation from 1969 plans Section 45-11-1B-CA.

Project Scoping Report	Project	Hutchins Road at Mill Creek Bridge	Additional Information
	Section	17-00275-02-BR	



- ① HOT-MIX ASPHALT SURFACE COURSE, MIX C, NSO, 2"
- ② HOT-MIX ASPHALT BINDER COURSE, IL 19, NSO, 7"
- ③ AGGREGATE SUBGRADE, 12"
- ④ HOT-MIX ASPHALT SHOULDERS, 6"
- ⑤ AGGREGATE BASE COURSE, TYPE A, 4"

Existing typical roadway section at culvert locations from 2008 reconstruction project (07-00275-01-WR).

The existing shoulder width from edgeline to face of guardrail is 6 feet. Figure 32-2D in the IDOT BLR Manual shows a required shoulder width of 8 feet based on suburban arterial criteria.

Functional Classification

IDOT classifies Hutchins Road as a Minor Arterial.

Drainage

Mill Creek flows west to east at Hutchins Road. The FEMA flood profile shows a difference in upstream and downstream profile of about 2 feet for the 100-year event, and about 1.5 feet for the 10-year event. The existing culvert installation is restrictive; consideration should be given to increasing the capacity if the culverts are replaced with a bridge structure.

Wetlands and Flood Plains

There are COE jurisdictional ADID wetlands on both ends of the culverts. It is anticipated that the proposed work would be covered by Regional Permit 3 - Transportation Projects.

Regulatory floodplain and floodway exist at the culvert crossing. A replacement structure cannot increase the 100-year flood discharge by more than 0.1 foot, and no more than 10% velocity increase may occur. IDNR coordination is anticipated as the tributary area to the project location exceeds 640 acres (1 square mile).

Project Scoping Report	Project	Hutchins Road at Mill Creek Bridge	Additional Information
	Section	17-00275-02-BR	

Adjacent Projects

No adjacent projects are identified.

Utilities

Watermain and gas facilitate exist on the west side of Hutchins Road outside of the culvert ends. Overhead facilities exist on both sides of the road, with ComEd on the east side.

There is a light on a ComEd pole on the east side of Hutchins Road about 100 ft north of Mill Creek.

Aesthetics

If a bridge is constructed, recommend application of a formliner and concrete staining on the west side, as it will be visible from the Grandwood Park District building and property. The east side of the structure borders Tempel Smith property and County of Lake property, and is not as visible from off the road. But suggest formliner/stain for both sides for uniformity.

Non Motorized Travel

Sidewalk exists on the west side of Hutchins Road, carried over Mill Creek on a prefabricated bridge structure. The pedestrian bridge is parallel to Hutchins Road, and is offset from the culvert ends. The sidewalk could be accommodated on the west side of a new road bridge, eliminating the separate pedestrian structure – this will be discussed with the Grandwood Park District to determine if they have interest in this work. LCDOT staff to verify that maintenance agreements exist and cover the pedestrian bridge and adjoining sidewalks.

The 2040 Non-Motorized Plan does not show any proposed projects on Hutchins Road. The Gap Analysis includes location S16, which is adding sidewalk on the west side of Hutchins Road from south of Edgewood Drive to Woodland Terrace (2270’). This gap begins 700 feet south of Mill Creek, so assume this will not be considered for inclusion in this project.

Agreements

As federal funding is proposed for construction, an IDOT Local Agency agreement will be required. If coordination during phase I engineering with the Grandwood Park District results in reimbursable funding for work on their facilities in the project area, an IGA will be required. No other agreements are anticipated at this time.

Right-of-Way Requirements

There may be a need for a permanent easement or right-of-way on the west side of Hutchins Road at the Grandwood Park District property. The right-of-way on the east side of Hutchins Road is wider due to the road centerline being relocated, so no property acquisition is anticipated.

Alternatives presented in the HLR Condition Report

<i>Strategy</i>	<i>Construction Cost</i>	<i>Design Life</i>
Place concrete invert	\$63,000	10 – 15 years
Spray polyurethane liner	\$390,000	30 – 40 years
Single span bridge	\$1,200,000	75 years

Project Scoping Report	Project	Hutchins Road at Mill Creek Bridge	Additional Information
	Section	17-00275-02-BR	

Engineering Funding (Local)

It is proposed that a locally funded combined phase I / phase II engineering contract be secured. As the intention is to utilize federal funds for construction, the scope of the phase I/II contract must include all tasks required to ensure federal eligibility. Also, the phase I contract shall include an examination of the repair/replacement alternatives available for the culverts, and identify a preferred alternate.

As per 50 ILCS 510/6, for locally funded engineering, selection of a design engineering firm may be done on the basis of having a satisfactory relationship for services. Per discussion at the scoping meeting, it was determined that this method will be used to secure a contract. The approval of the County Engineer will be required for the selection.

Construction Funding (Federal)

The 11/8/16 IDOT SIMS Report shows that the existing culverts have a sufficiency rating of 63.7, so is currently eligible for Highway Bridge Program funds for rehabilitation (80 threshold) but not replacement (50 threshold). Will coordinate with IDOT regarding the sufficiency rating and the replacement threshold as the project progresses. The intention is to seek funding for replacement of the culverts.

Summary of Comments – Hutchins Road at Mill Creek Scoping Report

Page: 4

Number: 1 Author: Betsy Duckert (BDuckert@lakecountyil.gov) Subject: Sticky Note Date: 4/18/2017 4:36:39 PM
CLCJAWA will be on the east side of Hutchins Rd at this location and will be boring under the creek. This will be happening - summer 2017

Work is currently underway for this permit – plans to be provided to design consultant

Number: 2 Author: Larry Savage (lsavage@lakecountyil.gov) Subject: Sticky Note Date: 4/5/2017 1:58:04 PM
The bridge is half on the county ROW. Should it be moved on or off?

To be determined in Phase I Engineering. Pedestrian bridge and adjacent sidewalk installed in 2004 prior to County having jurisdiction of Hutchins Road in 2006.

Number: 3 Author: Emily Karry (EKarry@lakecountyil.gov) Subject: Sticky Note Date: 4/5/2017 4:37:20 PM
IDOT Local agency agreement will be needed if fed funding is used

Noted – agreement needed for use of fed funds

Page: 5

Number: 1 Author: Larry Savage (lsavage@lakecountyil.gov) Subject: Sticky Note Date: 4/5/2017 1:56:25 PM
I believe the single span bridge would be the best option.

Replacement of the culverts with a single span bridge structure will be considered as an alternative during phase I engineering

Glenn Petko comments

Page 1 (proposed schedule being blank) - So based on report from HLR this should occur between 2020 & 2022 (5-7 years left to culvert life as of 2015). Earlier is always fine if design/permits ready & funding available, but should not plan for this to be any later without frequent re-inspection or a preventative measure.

Concur – project is currently programmed for 2019 construction. Will monitor during project and install bracing if required.

Page 2 (NW area of aerial) - scoured ditchline exists between Mill Creek & parking lot entrance by water tower on NW side
Noted – will address as part of project

Page 2 (W area of aerial) - What does HLR believe the slight hump in the creek is both upstream & downstream of the culverts? Could this be a built dam of some sort or just debris/downed tree? (flow was high when I was there so hard to tell) Also in the news recently is a failing dam upstream (I believe) that belongs to the Park District now that was constructed by a farmer about 70 years ago. Their possible work/changes might be relevant to any bridge design. SMC was said to be involved too.

We have not asked HLR to do any investigation of the area other than the structural inspection of the culvert. Due to the silt accumulation at the culverts it is possible there should be a profile adjustment.

The Grandwood Park District owns and maintains the upstream lake and dam. Temporary repairs to the dam were made in fall of 2016, and permanent repairs made in spring of 2017. Coordination will be necessary with LCSCM and IDNR/OWR during the permitting process for replacement of the culverts.

Page 2 - (NE area of aerial) - There is an existing street light on a Com Ed pole on NE. Unsure if we have a policy to light areas on a curve (usually just at side streets) so decide if this should remain or determine why it is there. Could be good idea to remain (even if poles require moving as part of project).

The aerial photos from 2007 and earlier show that the parking lot on the west side of Hutchins had a south entrance that aligned with the street light location. Currently it provides some light for the parking area and adjacent sidewalk. Will coordinate with the Park District to see if they would like the light to remain.

Page 4 about Non-motorized - My opinion is that this pedestrian bridge constructed in about 2004 should remain as a separate facility since not ours now. Seems to be far enough away that bridge work could occur without bothering it.

Noted – will be examined during phase I engineering.

Project Scoping Report	Project	Hutchins Road at Mill Creek	COMMITMENTS
	Section	17-00275-02-BR	

The minimum entry is:

- Date,
- Commitment Description,
- Who made the Commitment
- Date Completed (if completed).

A discussion of the commitment must be included in:

- Scoping Report
- Phase I Report
- IDOT Plan Submission
- Pre-Construction Conference
- Final Inspection

No Commitments have been made at this time

Project Scoping Report	Project	Hutchins Road at Mill Creek	Permit Check Sheet
	Section	17-00275-02-BR	

Rqd	Permit	Application to be submitted by			Submittal Date	Approval Date
<input checked="" type="checkbox"/>	Section 404	Consultant	<input checked="" type="checkbox"/>	LCDOT	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Joint Permit	Consultant	<input checked="" type="checkbox"/>	LCDOT	<input type="checkbox"/>	
<input type="checkbox"/>	Agricultural Resources	Consultant	<input type="checkbox"/>	LCDOT	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Cultural Resources	Consultant	<input checked="" type="checkbox"/>	LCDOT	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Borrow/Use Areas	Contractor	<input checked="" type="checkbox"/>	LCDOT	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	L.C. Watershed Dvlpmnt	Consultant	<input checked="" type="checkbox"/>	LCDOT	<input type="checkbox"/>	
<input type="checkbox"/>	NPDES Stormwater	Consultant	<input type="checkbox"/>	LCDOT	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Endangered Species	Consultant	<input checked="" type="checkbox"/>	LCDOT	<input type="checkbox"/>	

Permit	Agency
Section 404 1. Automatically requires 401 certification. 2. Required – any work is done within the limits of a designated wetland. 3. Wetland delineation is required on all projects except on “bluebook” resurfacing projects.	ACOE IEPA
Joint Permit 1. IDNR-Office of Water Resources classifies all of Lake County as an Urban Area. 2. Required – drainage work on gauged or navigable waterways 2. Required – structures draining in excess of 1 sq. mi. in urban areas 3. Required – draining work on gauged or 26 sq. mi. in rural areas	IEPA LCSMC IDOC ACOE
Agricultural Resources (Federal Aid Projects Only) 1. Required – projects requiring more than 10 acres of farmland acquisition per project. 2. Required – projects requiring more than 3 acres of farmland acquisition per mile. 3. Required – areas outside a municipality or outside 1 ½ mi. limits of the comprehensive plan.	IDOT
Cultural Resources 1. Required – projects with land acquisition. 2. Required – projects with easements. 3. Required – work on bridges built prior to 1941. 4. Required – locations within or adjacent to historic properties. 5. Required – projects with borrow or contractor use areas.	IDOT
Borrow/Use Areas 1. Required - projects involving borrow or contractor use areas.	IDOT
Lake County Watershed Development Permit 1. See enclosed County Watershed Development Ordinance requirements. 2. Required – modifying a watercourse draining 20 or more acres. 3. Required – projects with increasing in impervious area > 1.5 acre/mi (linear or non-linear) 4. Required – project involving work in a floodplain with trib. area > 100 acres. 5. Required – disturbing a cumulative total of 1 acre or more of wetlands.	LCSMC
NPDES Stormwater Permit 1. All projects with 1 or more acres of disturbed land.	IEPA
Endangered Species 1. Projects involving earthwork	IDOC

Project Scoping Report	Project	Hutchins Road at Mill Creek	LCSMC Checksheet
	Section	17-00275-02-BR	

Lake County Watershed Development Ordinance

- Yes **Permit required for modifying a watercourse draining 20 or more acres. (including culvert replacement)**
 No
- Yes **Permit required for any part of improvement that is in floodplain. (all floodplain with a tributary area >100 acres and 100 year flood frequency)**
 No
- Yes **Permit required for increase in impervious area of 1 acre for intersections and 1.5 acre for continuous road projects**
 No

Application Data

1. A copy of IDOT-DWR permit application.
2. A copy of the proposed stormwater management system showing the location and size of all existing and proposed drainage improvements including plan, profile and cross sections. *If in floodplain include 100 year base flood elevation on plan and profile.*
3. A copy of all calculations supporting the stormwater management plan.
4. A soil and sedimentation control plan.

- Yes **Disturbs a cumulative total of 1 acre or more of wetlands**
 No

Application Data

Wetland Determination Report

1. Map showing location of wetland w/dvlpmnt boundary
2. Aerial photo with delineated wetlands
3. ACOE data sheets with color photos
4. Written description of wetland functional classification

Wetland Use Documentation

1. Determine if project is water dependent
2. Minimization of impacts
3. Selection & justification of appropriate mitigation plan
4. Appropriate use of wetlands for detention

Design Requirements – Stormwater Calculations and General Requirements

1. Drainage area >100 acres or for detention requirements, require hydrograph producing method. 2. Drainage area <100 acres, rational method is acceptable. 3. Bulletin 70 rainfall data is required. 4. Calculations on tributary land is based on the greater or future or existing runoff conditions. 5. Stormwater detention storage requirements shall be in addition to any existing storage. 6. Buffers shall be provided adjacent to all channels and open bodies of water as well as wetlands of exceptional value.

Design Requirements – Release Rates and Discharge

1. A release rate of no more than 0.04 cfs/acre for a 2 year storm and nor more than 0.15 cfs/acre for a 100 year storm for the added impervious area for widening & resurface project and for all disturbed areas for new construction. 2. Drainage system must outlet into a well defined receiving channel with adequate capacity. 3. Overland flow path to be designed for 100 year flow. 4. Drainage system not to result in interbasin flow. 5. Discharge into wetlands, existing lakes and ponds due to a new development shall have the initial 1/2" of runoff detailed immediately before discharge into the lake, stream or wetland. 6. Stormwater discharges shall discharge into a buffer area before entering a waterway, wherever possible.

Design Requirements – Detention

1. Provide all detention/retention/infiltration facilities with an overflow capacity for a 100 year storm. 2. Minimum outlet pipe size shall be a 12" dia. With a restrictor as required. 3. Detention facilities shall not be built in a regulatory floodplain. 4. Fee-in-lieu of detention is allowed as an option.

Design Requirements – Floodplain Development

1. Provide compensatory storage at the rate of 1.2:1 for riverine floodplain and at the rate of 1:1 for non-riverine floodplain. 2. Bridge and culvert modification (a) maximum created heat – 0.1' (b) control velocities from scour, erosion and sedimentation.

Design Requirements – Soil Erosion and Sediment Control

1. Protect properties and waterways from erosion. 2. Soil and erosion control measures to be in place before any earthwork begins. 3. Permanent or temporary soil stabilization to be applied within 15 days of final grading. 4. Areas draining <1 acre shall be protected by filter fabric (i.e. filter fence and straw bales), with drainage areas between 1 & 5 acres a sediment trap or equal shall be used, and for drainage areas over 5 acres a sedimentation basin shall be used to control erosion. 5. Minimum embankment slope – 3:1. 6. All storm sewers operating during construction shall be filtered. 7. All temporary sediment and erosion control measures shall be removed within 30 days of site stabilization. 8. A stabilized mat shall be placed at all construction access points.

Design Requirements – Wetland Mitigation

1. Use measures to maintain or improve wetland functions. 2. Mitigate on site where possible. 3. Provide mitigation through restoration, enhancement, creation or contribution at a minimum ratio of 1:1.

Project Scoping Report Revised 8/29/2005 GNW	Project	Hutchins Road at Mill Creek	Agreement Checksheet
	Section	17-00275-02-BR	

- Jurisdictional Transfer Agreement**
 Provides for deletion from or addition to the Lake County and another road system.
 List other party: _____
- Joint Agreement with the State of Illinois**
 Provides an agreement for the use of State or Federal highway funds between the State of Illinois and Lake County for a particular project. See Chapter 4 of the Federal Aid manual for more details. This agreement also requires the following contingency clause:
An addendum certification, required by Illinois law in local agency agreements with the State of Illinois, which terminates the obligations of each party in the event the Illinois General Assembly or other federal funding source fails to appropriate or otherwise make available funds for the negotiated agreement.
- County/Other Organization Agreement**
 Provides an agreement between Lake County and other governmental or non-governmental organizations financing part of the project or delimiting who, what, when, where and how for participants in a project.
 List other party: _____
- Signal Agreement**
 Provides for the installation and maintenance of permanent traffic control signals with a governmental or non-governmental organization. It specifies who pays for what and when.
 List other party: _____
- Fire Protection District Agreement for other than Lake County owned signals**
 - With emergency vehicle pre-emption
 - Without emergency vehicle pre-emption
 The project engineer (or consultant) makes the initial contact with the Fire Protection District to see if they desire the signal to be with or without emergency vehicle pre-emption. "With pre-emption" presupposes that they will pay for the pre-emption equipment and its maintenance. For a list of Fire Protection Districts in Lake County see the "Directory of Utility Contacts" loose leaf binder in the Design Library
 List District: _____
- Fire Protection District Agreement for Lake County owned signals**
 LCDOT has a master agreement with all Fire Protection Districts. The signal is always with emergency vehicle pre-emption. "With pre-emption" presupposes that LCDOT will pay for the pre-emption equipment and its maintenance.
 List District: _____ Select one
- Illinois Commerce Commission/Lake County Agreement**
 This agreement is used for the improvement of automatic flashing light (or other types of) signals where the Railroad crosses Lake County Roads.
- Commonwealth Edison/Lake County Lease Agreement**
 This agreement is necessary in order for the County to develop part of the Commonwealth Edison right-of-way into a bike path.
- Illinois Department of Natural Resources/Lake County Agreement**
 This agreement provides the terms and conditions by which the Illinois Department of Natural Resources will grant the Lake County Division of Transportation one-half the cost up to a maximum amount for construction of a bikepath.
- Developer Agreement**
 This is an agreement with a contiguous developer when the developer would have been required to make improvements on the County road which would have been occurring at about the same time as County sponsored improvements in the same area.
 List _____
- Other (specify):** _____

Project Scoping Report	Project	HUTCHINS ROAD AT MILL CREEK	NMTI CHECKLIST
	Section	17-00275-02-BR	

**Lake County Division of Transportation
Non-Motorized Travel Investments
Planning and Programming Facilities Checklist - Scoping Reports**

Consistency with Planning Documents / Community Land Use			
Is the roadway designated part of a regionally or locally adopted bike plan or pedestrian way?		Is the roadway in an urban /suburban area?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
LCDOT Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the roadway the "main street" in a community or town?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
LCPD Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Municipal Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is there local support for bike / pedestrian facility along the route?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Local/State Park Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Are there planned bike / pedestrian facility generating development(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Local Bike Organization Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

Existing and Future Context Considerations			
Do bicycle or pedestrian facilities already exist?			Is there evidence of bicycle travel or pedestrian activity within the proposed project limits?
Bicycle path	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> 1 side <input type="checkbox"/> 2 sides	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Bicycle lane	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> 1 side <input type="checkbox"/> 2 sides	Is the roadway close to hospitals, elderly care facilities, or residences/businesses of persons with disabilities?
Sidewalk	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> 1 side <input type="checkbox"/> 2 sides	
Can a 4' HMA shoulder be constructed on the existing shoulder?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Are bicycle or pedestrian generators located along or near the roadway?
Will the Bike Lane be marked?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Does a Bicycle or pedestrian facility cross the project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is the roadway in close proximity to a school?

Safety Considerations		Transit Considerations	
Are there bicycle / pedestrian crashes in the area?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is the roadway a designated Pace transit route, does it intersect with a Pace route, or is it within close proximity to a Pace route?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is there a high amount of crossing activity at intersections or midblock locations?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Is there a high amount of night crossing activity?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is the roadway within 1/2 mile of a METRA station?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the route provide access across a natural or man-made barrier?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Does the roadway cross a rail line or abut a railroad right-of-way?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Will the roadway project negatively affect the utility of an independent bikeway	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is the roadway near transit park and ride lots?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Refer to the LCDOT *Policy on Infrastructure Guidelines for Non-Motorized Travel Investments* for definitions and further guidance for the above questions.

Include this checklist in every Scoping Report.

DOTmap Printout



 Tax Parcel Lines

DOTmap Printout



Culverts

-  Culvert
-  Culvert Part of Storm Sewer System
-  Bike Tunnel

-  ADvanced IDentification Wetlands
-  Lake County Wetland Inventory

LCDOT GIS
4/3/2017

DOTmap Printout



Credits: Cook County 2015 Aerial Imagery

Culverts

-  Culvert
-  Culvert Part of Storm Sewer System
-  Bike Tunnel
-  Cross-Sections

 Base Flood Elevations

Flood Hazard Zones

-  1% Annual Chance Flood Hazard
-  Regulatory Floodway
-  0.2% Annual Chance of Flood Hazard

LCDOT GIS
4/3/2017

DESIGN SURVEY PROCEDURES



DESIGN SURVEY PROCEDURES (Revised 3/10/17)

HORIZONTAL ALIGNMENT

Unless otherwise specified in the services contract, the CONSULTANT is to provide the horizontal alignment. The CONSULTANT will conduct all surveying, stationing, and preparation of required plans using English units of measure and the U.S. Survey Foot. The CONSULTANT'S SURVEYOR will try to re-establish the original horizontal alignment as shown on the recorded R.O.W. plats. The CONSULTANT shall contact LCDOT's Land Surveyor to obtain R.O.W. plats and field notes before establishing the horizontal alignment and stationing. The CONSULTANT shall notify LCDOT's Surveyor immediately if the alignment cannot be reproduced or if in the CONSULTANT'S opinion the existing alignment information is in error.

The CONSULTANT'S SURVEYOR, prior to construction, shall stake the PCs, PIs, PTs, and POTs so that the alignment location can be verified before construction staking is initiated. The CONSULTANT'S SURVEYOR will provide four reference ties to all U.S. Public Land Survey Monuments that are located within the construction limits. The reference points should be located outside of the anticipated construction limits if practical, so that they can be used after construction to replace the monuments. The CONSULTANT shall record Monument Records for all Section and Quarter Section corners set or found within the construction limits.

The CONSULTANT will mark the baseline for relocated alignments when off pavement at the PCs, PTs, and POTs with iron rods. The rods shall be set one foot below the surface in farmed land. The CONSULTANT will advise the County of any pavement alignment variations. In cases where the proposed centerline of construction or survey baseline is different from the existing centerline of R.O.W., both shall be shown and the relationship between them shall be indicated on an Alignment & Tie sheet.

ALIGNMENT & TIE SHEET

An Alignment & Tie Sheet shall be provided as part of the final plans. The plans are to be prepared using English units of measure and the U.S. Survey Foot. The station, offset, and coordinates of the alignment points (PCs, PTs, PIs, and POTs) and survey control (traverse) points shall be shown. Coordinates for all projects shall be on the Illinois State Plane Coordinate System, - East zone, NAD83 (Adjustment). The grid (combination) factor for the project shall be shown. A list of traverse points with station, offset, and coordinates shall be provided.

VERTICAL ALIGNMENT

The North American Vertical Datum of 1988 (NAVD 88) shall be used for vertical control. Lake County Mapping Benchmarks are available on-line (<http://gis.lakeco.org/maps/>). NAVD88 benchmarks are available on-line from the National Geodetic Survey. LCDOT's Land Surveyor may also be contacted for benchmarks that may be in the area. The primary benchmarks and site benchmarks shall be listed and described on the Alignment & Tie Sheet. The location of the site benchmarks shall also be shown on the plan sheets with a symbol. Site benchmarks are to be located at less than 1000-foot intervals with a minimum of two (2) on each project.

All benchmarks shall be located on stable objects. LCDOT prefers these objects to be outside the construction limits. Some acceptable benchmark examples are, spikes in poles, bolts on fire hydrant rings, and concrete foundations.

TOPOGRAPHY

The CONSULTANT shall cut cross-sections at 50-foot intervals and at all points needing clarification. For areas of superelevation or requiring greater detail, cross-sections shall be cut at 25-foot intervals. The cross section interval should be defined in the engineering services contract.

Full cross-section profiles will be taken at all cross streets, alleys, cross road culverts, and entrances (commercial, private, and field). Half cross-sections will not be accepted because they skew the computer terrain model.

The CONSULTANT will locate and identify all trees (6 inches in diameter or greater) within the area either side of the centerline, defined by the proposed ROW or construction limits (whichever is greater) plus an additional 10 feet. The trees shall be identified by species and size. The trees shall be located by station/offset and have a ground elevation.

Streams, tributaries, or major drainage ditches located within a lateral distance of 250 feet from centerline (upstream and downstream) shall be surveyed. Alignment, profiles, and cross-sections shall be taken. The stream width shall be shown as the distance measured between the tops of the stream banks. Profile elevations along the bottom of the watercourse shall be taken at a minimum of 50-foot intervals.

The survey shall extend a minimum of 200 feet beyond the roadway construction limits. Cross-sections shall be taken a minimum of 10 feet beyond the proposed R.O.W. or construction limits (whichever is greater). Cross-sections will extend 30 feet beyond the proposed R.O.W. at entrances and 150 feet at minor side roads.

All survey data shall be collected in Illinois State Plane Coordinates – East Zone. The collected survey data for the existing topography shall have a minimum of 3rd Order Accuracy horizontally with readings to the nearest 0.1 feet for vertical on gravel or ground and readings to the nearest 0.01 feet for vertical on all other surfaces.

RAILROAD INSURANCE

The CONSULTANT will comply with the railroad's requirements when conducting a survey on the railroad's R.O.W. Usually, this includes obtaining a permit, paying a fee, obtaining Railroad Protective Liability Insurance, notification of a flagman to be present near the rails during the survey operations, and any other requirements of the railroad. The CONSULTANT is responsible for all of the foregoing requirements.

DELIVERABLES

- I. Copies from the CONSULTANT'S field books, showing benchmarks, level circuits, & structure details, such as size and inverts etc.
- II. The Base Drawing at 1:1 scale. All the topographic information shall be plotted electronically. The data shall be in Illinois State Plane Coordinates – East Zone and be recorded in a MICROSTATION (dgn) format. All CAD work shall be according to LCDOT CAD Standards. ASCII files, gpk files, and/or InRoads files containing all point information as described below shall be included. A filename “ID” acronym explanation sheet shall be provided. Backup CDs shall be provided.
- III. Point Information:
 - (1) Point number
 - (2) Northing and Easting coordinate values
 - (3) "Z" elevations
 - (4) Point identification by code
 - (5) Notes