



Using Federal Funds? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Agreement For MFT PE	Agreement Type Original
--	--------------------------------	-----------------------------------

LOCAL PUBLIC AGENCY

Local Public Agency Lake County Division of Transportation	County Lake	Section Number 22-00999-85-ES	Job Number
Project Number 	Contact Name Kevin Carrier	Phone Number (847) 377-7448	Email kcarrier@lakecountyil.gov

SECTION PROVISIONS

Local Street/Road Name Fairfield Road	Key Route CH 49	Length 5.49	Structure Number N/A
Location Termini North of IL 134 to North of Gilmer Road			Add Location Remove Location

Project Description

Work will include completing a Planning Environmental Linkages (PEL) Study for the Fairfield Road corridor to evaluate roadway and intersection alternatives for motorized and non-motorized travel. The study will follow the federal PEL process to develop a National Environmental Policy Act (NEPA) Purpose and Need and to identify alternatives to carry further for further evaluation with consideration of stakeholder and public feedback.

Engineering Funding <input checked="" type="checkbox"/> MFT/TBP <input type="checkbox"/> State <input type="checkbox"/> Other	County Option
Anticipated Construction Funding <input type="checkbox"/> Federal <input type="checkbox"/> MFT/TBP <input type="checkbox"/> State <input checked="" type="checkbox"/> Other	TBD

AGREEMENT FOR

☒ Phase I - Preliminary Engineering ☐ Phase II - Design Engineering

CONSULTANT

Prime Consultant (Firm) Name HDR Engineering, Inc.	Contact Name Thomas M. Hein	Phone Number (773) 867-7244	Email thomas.hein@hdrinc.com
Address 9450 West Bryn Mawr Avenue, Suite 400	City Rosemont	State IL	Zip Code 60018

THIS AGREEMENT IS MADE between the above Local Public Agency (LPA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the improvement of the above SECTION. Project funding allotted to the LPA 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.

Since the services contemplated under the AGREEMENT are professional in nature, it is understood that the ENGINEER, acting as an individual, partnership, firm or legal entity, qualifies for professional status and will be governed by professional ethics in its relationship to the LPA and the DEPARTMENT. The LPA acknowledges the professional and ethical status of the ENGINEER by entering into an AGREEMENT on the basis of its qualifications and experience and determining its compensation by mutually satisfactory negotiations.

WHEREVER IN THIS AGREEMENT or attached exhibits the following terms are used, they shall be interpreted to mean:

Regional Engineer	Deputy Director, Office of Highways Project Implementation, Regional Engineer, Department of Transportation
Resident Construction Supervisor	Authorized representative of the LPA in immediate charge of the engineering details of the construction PROJECT
In Responsible Charge Contractor	A full time LPA employee authorized to administer inherently governmental PROJECT activities Company or Companies to which the construction contract was awarded

AGREEMENT EXHIBITS

The following EXHIBITS are attached hereto and made a part of hereof this AGREEMENT:

- ☒ EXHIBIT A: Scope of Services
- ☒ EXHIBIT B: Project Schedule
- ☒ EXHIBIT C: Qualification Based Selection (QBS) Checklist
- ☒ EXHIBIT D: Cost Estimate of Consultant Services (BLR 05513 or BLR 05514)
- ☐ EXHIBIT ____ : Direct Costs Check Sheet (attach BDE 436 when using Lump Sum on Specific Rate Compensation)
- ☐ _____
- ☐ _____
- ☐ _____

I. THE ENGINEER AGREES,

1. To perform or be responsible for the performance of the Scope of Services presented in EXHIBIT A for the LPA in connection with the proposed improvements herein before described.
2. The Classifications of the employees used in the work shall be consistent with the employee classifications and estimated staff hours. If higher-salaried personnel of the firm, including the Principal Engineer, perform services that are to be performed by lesser-salaried personnel, the wage rate billed for such services shall be commensurate with the payroll rate for the work performed.
3. That the ENGINEER shall be responsible for the accuracy of the work and shall promptly make necessary revisions or corrections required as a result of the ENGINEER'S error, omissions or negligent acts without additional compensation. Acceptance of work by the LPA or DEPARTMENT will not relieve the ENGINEER of the responsibility to make subsequent correction of any such errors or omissions or the responsibility for clarifying ambiguities.
4. That the ENGINEER will comply with applicable Federal laws and regulations, State of Illinois Statutes, and the local laws or ordinances of the LPA.
5. To pay its subconsultants for satisfactory performance no later than 30 days from receipt of each payment from the LPA.
6. To invoice the LPA, The ENGINEER shall submit all invoices to the LPA within three months of the completion of the work called for in the AGREEMENT or any subsequent Amendment or Supplement.
7. The ENGINEER or subconsultant shall not discriminate on the basis of race, color, national origin or sex in the performance of this AGREEMENT. The ENGINEER shall carry out applicable requirements of 49 CFR part 26 in the administration of US Department of Transportation (US DOT) assisted contract. Failure by the Engineer to carry out these requirements is a material breach of this AGREEMENT, which may result in the termination of this AGREEMENT or such other remedy as the LPA deems appropriate.
8. That none of the services to be furnished by the ENGINEER shall be sublet, assigned or transferred to any other party or parties without written consent of the LPA. The consent to sublet, assign or otherwise transfer any portion of the services to be furnished by the ENGINEER shall be construed to relieve the ENGINEER of any responsibility for the fulfillment of this AGREEMENT.
9. For Preliminary Engineering Contracts:
 - (a) To attend meetings and visit the site of the proposed improvement when requested to do so by representatives of the LPA or the DEPARTMENT, as defined in Exhibit A (Scope of Services).
 - (b) That all plans and other documents furnished by the ENGINEER pursuant to the AGREEMENT will be endorsed by the ENGINEER and affixed the ENGINEER's professional seal when such seal is required by law. Such endorsements must be made by a person, duly licensed or registered in the appropriate category by the Department of Professional Regulation of the State of Illinois. It will be the ENGINEER's responsibility to affix the proper seal as required by the Bureau of Local Roads and Streets manual published by the DEPARTMENT.
 - (c) That the ENGINEER is qualified technically and is thoroughly conversant with the design standards and policies applicable for the PROJECT; and that the ENGINEER has sufficient properly trained, organized and experienced personnel to perform the services enumerated in Exhibit A (Scope of Services).
10. That the engineering services shall include all equipment, instruments, supplies, transportation and personnel required to perform the duties of the ENGINEER in connection with this AGREEMENT (See DIRECT COST tab in BLR 05513 or BLR 05514).

II. THE LPA AGREES,

1. To certify by execution of this AGREEMENT that the selection of the ENGINEER was performed in accordance with the Professional Services Selection Act (50 ILCS 510) (Exhibit C).
2. To furnish the ENGINEER all presently available survey data, plans, specifications, and project information.
3. To pay the ENGINEER:
 - (a) For progressive payments - Upon receipt of monthly invoices from the ENGINEER and the approval thereof by the LPA, monthly payments for the work performed shall be due and payable to the ENGINEER, such payments to be equal to the value of the partially completed work minus all previous partial payments made to the ENGINEER.
 - (b) Final payment - Upon approval of the work by the LPA but not later than 60 days after the work is completed and reports have been made and accepted by the LPA and DEPARTMENT a sum of money equal to the basic fee as determined in this AGREEMENT less the total of the amount of partial payments previously paid to the ENGINEER

shall be due and payable to the ENGINEER.

(c) For Non-Federal County Projects - (605 ILCS 5/5-409)

- (1) For progressive payments - Upon receipt of monthly invoices from the ENGINEER and the approval thereof by the LPA, monthly payments for the work performed shall be due and payable to the ENGINEER. Such payments to be equal to the value of the partially completed work in all previous partial payments made to the ENGINEER.
- (2) Final payment - Upon approval of the work by the LPA but not later than 60 days after the work is completed and reports have been made and accepted by the LPA and STATE, a sum of money equal to the basic fee as determined in the AGREEMENT less the total of the amount of partial payments previously paid to the ENGINEER shall be due and payable to the ENGINEER.

4. To pay the ENGINEER as compensation for all services rendered in accordance with the AGREEMENT on the basis of the following compensation method as discussed in 5-5.10 of the BLR Manual.

Method of Compensation:

☐ Percent

☐ Lump Sum

☐ Specific Rate

☒ Cost plus Fixed Fee: Fixed

Total Compensation = DL + DC + OH + FF

Where:

DL is the total Direct Labor,

DC is the total Direct Cost,

OH is the firm's overhead rate applied to their DL and

FF is the Fixed Fee.

Where $FF = (0.33 + R) DL + \%SubDL$, where R is the advertised Complexity Factor and %SubDL is 10% profit allowed on the direct labor of the subconsultants.

The Fixed Fee cannot exceed 15% of the DL + OH.

5. The recipient shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any US DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR part 26. The recipient shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of US DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR part 26 and as approved by US DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as violation of this AGREEMENT. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C 3801 et seq.).

III. IT IS MUTUALLY AGREED,

1. To maintain, for a minimum of 3 years after the completion of the contract, adequate books, records and supporting documents to verify the amount, recipients and uses of all disbursements of funds passing in conjunction with the contract; the contract and all books, records and supporting documents related to the contract shall be available for review and audit by the Auditor General, and the DEPARTMENT; the Federal Highways Administration (FHWA) or any authorized representative of the federal government, and to provide full access to all relevant materials. Failure to maintain the books, records and supporting documents required by this section shall establish a presumption in favor of the DEPARTMENT for the recovery of any funds paid by the DEPARTMENT under the contract for which adequate books, records and supporting documentation are not available to support their purported disbursement.
2. That the ENGINEER shall be responsible for any all damages to property or persons out of an error, omission and/or negligent act in the prosecution of the ENGINEER's work and shall indemnify and save harmless the LPA, the DEPARTMENT, and their officers, agents and employees from all suits, claims, actions or damages liabilities, costs or damages of any nature whatsoever resulting there from. These indemnities shall not be limited by the listing of any insurance policy.

The LPA will notify the ENGINEER of any error or omission believed by the LPA to be caused by the negligence of the ENGINEER as soon as practicable after the discovery. The LPA reserves the right to take immediate action to remedy any error or omission if notification is not successful; if the ENGINEER fails to reply to a notification; or if the conditions created by the error or omission are in need of urgent correction to avoid accumulation of additional construction costs or damages to property and reasonable notice is not practicable.
3. This AGREEMENT may be terminated by the LPA 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 LPA all drawings, plats, surveys, reports, permits, agreements, soils and foundation analysis, provisions, specifications, partial and completed estimates and data, if any from soil survey and subsurface investigation with the understanding that all such materials becomes the property of the LPA. The LPA will be responsible for reimbursement of all eligible expenses incurred under the terms of this AGREEMENT up to the date of the written notice of termination.

4. In the event that the DEPARTMENT stops payment to the LPA, the LPA may suspend work on the project. If this agreement is suspended by the LPA for more than thirty (30) calendar days, consecutive or in aggregate, over the term of this AGREEMENT, the ENGINEER shall be compensated for all services performed and reimbursable expenses incurred prior to receipt of notice of suspension. In addition, upon the resumption of services the LPA shall compensate the ENGINEER, for expenses incurred as a result of the suspension and resumption of its services, and the ENGINEER's schedule and fees for the remainder of the project shall be equitably adjusted.
5. This AGREEMENT shall continue as an open contract and the obligations created herein shall remain in full force and effect until the completion of construction of any phase of professional services performed by others based upon the service provided herein. All obligations of the ENGINEER accepted under this AGREEMENT shall cease if construction or subsequent professional services are not commenced within 5 years after final payment by the LPA.
6. That the ENGINEER shall be responsible for any and all damages to property or persons arising out of an error, omission and/or negligent act in the prosecution of the ENGINEER's work and shall indemnify and have harmless the LPA, the DEPARTMENT, and their officers, employees from all suits, claims, actions or damages liabilities, costs or damages of any nature whatsoever resulting there from. These indemnities shall not be limited by the listing of any insurance policy.
7. The ENGINEER and LPA certify that their respective firm or agency:
 - (a) has not employed or retained for commission, percentage, brokerage, contingent fee or other considerations, any firm or person (other than a bona fide employee working solely for the LPA or the ENGINEER) to solicit or secure this AGREEMENT,
 - (b) has not agreed, as an express or implied condition for obtaining this AGREEMENT, to employ or retain the services of any firm or person in connection with carrying out the AGREEMENT or
 - (c) has not paid, or agreed to pay any firm, organization or person (other than a bona fide employee working solely for the LPA or the ENGINEER) any fee, contribution, donation or consideration of any kind for, or in connection with, procuring or carrying out the AGREEMENT.
 - (d) that neither the ENGINEER nor the LPA is/are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency,
 - (e) has not within a three-year period preceding the AGREEMENT been convicted of or had a civil judgment rendered against them for commission of fraud or criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, State or local) transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property.
 - (f) are not presently indicated for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph and
 - (g) has not within a three-year period preceding this AGREEMENT had one or more public transaction (Federal, State, local) terminated for cause or default.

Where the ENGINEER or LPA is unable to certify to any of the above statements in this clarification, an explanation shall be attached to this AGREEMENT.

8. In the event of delays due to unforeseeable causes beyond the control of and without fault or negligence of the ENGINEER no claim for damages shall be made by either party. Termination of the AGREEMENT or adjustment of the fee for the remaining services may be requested by either party if the overall delay from the unforeseen causes prevents completion of the work within six months after the specified completion date. Examples of unforeseen causes included but are not limited to: acts of God or a public enemy; acts of the LPA, DEPARTMENT, or other approving party not resulting from the ENGINEER's unacceptable services; fire; strikes; and floods.

If delays occur due to any cause preventing compliance with the PROJECT SCHEDULE, the ENGINEER shall apply in writing to the LPA for an extension of time. If approved, the PROJECT SCHEDULE shall be revised accordingly.

9. This certification is required by the Drug Free Workplace Act (30 ILCS 580). The Drug Free Workplace Act requires that no grantee or contractor shall receive a grant or be considered for the purpose of being awarded a contract for the procurement of any property or service from the DEPARTMENT unless that grantee or contractor will provide a drug free workplace. False certification or violation of the certification may result in sanctions including, but not limited to suspension of contract on grant payments, termination of a contract or grant and debarment of the contracting or grant opportunities with the DEPARTMENT for at least one (1) year but not more than (5) years.

For the purpose of this certification, "grantee" or "Contractor" means a corporation, partnership or an entity with twenty-five (25) or more employees at the time of issuing the grant or a department, division or other unit thereof, directly responsible for the specific performance under contract or grant of \$5,000 or more from the DEPARTMENT, as defined the Act.

The contractor/grantee certifies and agrees that it will provide a drug free workplace by:

- (a) Publishing a statement:
 - (1) Notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance, including cannabis, is prohibited in the grantee's or contractor's workplace.
 - (2) Specifying actions that will be taken against employees for violations of such prohibition.
 - (3) Notifying the employee that, as a condition of employment on such contract or grant, the employee will:
 - (a) abide by the terms of the statement; and
 - (b) notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than (5) days after such conviction.
- (b) Establishing a drug free awareness program to inform employees about:
 - (1) The dangers of drug abuse in the workplace;

- (2) The grantee's or contractor's policy to maintain a drug free workplace;
- (3) Any available drug counseling, rehabilitation and employee assistance program; and
- (4) The penalties that may be imposed upon an employee for drug violations.
- (c) Providing a copy of the statement required by subparagraph (a) to each employee engaged in the performance of the contract or grant and to post the statement in a prominent place in the workplace.
- (d) Notifying the contracting, or granting agency within ten (10) days after receiving notice under part (b) of paragraph (3) of subsection (a) above from an employee or otherwise, receiving actual notice of such conviction.
- (e) Imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program.
- (f) Assisting employees in selecting a course of action in the event drug counseling, treatment and rehabilitation is required and indicating that a trained referral team is in place.

Making a good faith effort to continue to maintain a drug free workplace through implementation of the Drug Free Workplace Act, the ENGINEER, LPA and the Department agree to meet the PROJECT SCHEDULE outlined in EXHIBIT B. Time is of the essence on this project and the ENGINEER's ability to meet the PROJECT SCHEDULE will be a factor in the LPA selecting the ENGINEER for future projects. The ENGINEER will submit progress reports with each invoice showing work that was completed during the last reporting period and work they expect to accomplish during the following period.

- 10. Due to the physical location of the project, certain work classifications may be subject to the Prevailing Wage Act (820 ILCS 130/0.01 et seq.).
- 11. For Preliminary Engineering Contracts:
 - (a) That tracing, plans, specifications, estimates, maps and other documents prepared by the ENGINEER in accordance with this AGREEMENT shall be delivered to and become the property of the LPA and that basic survey notes, sketches, charts, CADD files, related electronic files, and other data prepared or obtained in accordance with this AGREEMENT shall be made available, upon request to the LPA or to the DEPARTMENT, without restriction or limitation as to their use. Any re-use of these documents without the ENGINEER involvement shall be at the LPA's sole risk and will not impose liability upon the ENGINEER.
 - (b) That all reports, plans, estimates and special provisions furnished by the ENGINEER shall conform to the current Standard Specifications for Road and Bridge Construction, Bureau of Local Roads and Streets Manual or any other applicable requirements of the DEPARTMENT, it being understood that all such furnished documents shall be approved by the LPA and the DEPARTMENT before final acceptance. During the performance of the engineering services herein provided for, the ENGINEER shall be responsible for any loss or damage to the documents herein enumerated while they are in the ENGINEER's possession and any such loss or damage shall be restored at the ENGINEER's expense.

AGREEMENT SUMMARY

Prime Consultant (Firm) Name	TIN/FEIN/SS Number	Agreement Amount
HDR Engineering, Inc.	47-0680568	\$1,913,759.00

Subconsultants	TIN/FEIN/SS Number	Agreement Amount
Baxter & Woodman	36-2845242	\$635,468.00
Subconsultant Total		\$635,468.00
Prime Consultant Total		\$1,913,759.00
Total for all work		\$2,549,227.00

AGREEMENT SIGNATURES

Executed by the LPA:

Attest: The of

By (Signature & Date)

By (Signature & Date)

Local Public Agency

Local Public Agency Type

Clerk

Title

(SEAL)

Executed by the ENGINEER:

Attest:

Prime Consultant (Firm) Name

By (Signature & Date)

2/9/2023

Title

By (Signature & Date)

2/9/2023

Title

APPROVED:

Regional Engineer, Department of Transportation (Signature & Date)

..

Local Public Agency	Prime Consultant (Firm) Name	County	Section Number
Lake County Division of Transport	HDR Engineering, Inc.	Lake	22-00999-85-ES

**EXHIBIT A
SCOPE OF SERVICES**

To perform or be responsible for the performance of the engineering services for the LPA, in connection with the PROJECT herein before described and enumerated below



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

Introduction

This document presents the proposed work components for completing a Planning Environmental Linkages (PEL) Study for the Fairfield Road corridor located in unincorporated Lake County near Round Lake, Illinois, for the Lake County Division of Transportation (LCDOT) and National Environmental Policy Act (NEPA) processes documentation.

Fairfield Rd Corridor Study Limits

Road	Limits	Total Linear Feet
Fairfield Road	N of IL 134 to N of Gilmer Road	29,000
Chardon Road	500 ft East and West (E&W)	1,000
IL Route 60	1000 ft East and West (E&W)	2,000
Townline Road	500 ft E&W	1,000
IL Route 120	1500 ft E&W	3,000
Nippersink Road	1000 ft E&W	2,000
Old Farm Road	500 ft E	500
Hart Road	500 ft E	500
Falcon Boulevard	250 ft W	250
Tyler Avenue	300 ft E	300
Town Center Drive	500 ft W	500
IL Route 134	2500 E & 3000 W	5,500
Long Lake Drive	500 ft E & W	1,000
Barberry Lane	250 ft E	250
Mayfield Drive	500 E&W	1,000
Central Park Drive	300 ft E	300
Emerald Lane	300 ft W	300
Passavant Avenue/Oakwood Drive	400 ft E&W	800
Bike Path Connection N of IL 120	1400	1,400

50,600 ft

9.58 miles

The Fairfield Road Corridor PEL Study will follow the federal PEL process to develop a NEPA-ready purpose and need and identify alternatives to be carried forward through coordination with stakeholders, the public, and tribes. The work efforts will also include the preparation of a Final PEL Report documenting the outcomes of the PEL Study. The scope of services generally consists of the following:

- Startup tasks, data compilation and GIS development, survey and mapping efforts
- Travel demand modeling and operational analysis, as well as crash analysis
- Land use analyses and analysis of environmental studies
- Alternatives development, screening, and evaluation
- PEL development, including necessary Purpose & Need and Alternatives Development efforts
- Public involvement and agency coordination
- NEPA Documentation
- Project management, and quality management, as defined in this document.



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

The scope of services for the study efforts has been developed in conformance with Illinois Department of Transportation's (IDOT) Context Sensitive Solutions (CSS) policies and procedures. Additionally, the scope is consistent with objectives and procedures for a PEL and documentation as presented in the Bureau of Local Roads and Streets (BLRS) Manual and the Federal Highway Administration (FHWA) policies and guidance documents. Specific procedures and objectives for the PEL are as follows:

Procedures and Objectives

- Validate proposed study area, generally from North of IL 134 to North of Gilmer Road along the existing Fairfield Road alignment.
- Develop and implement a comprehensive Stakeholder Involvement Plan in conformance with IDOT's CSS procedures. Proactively elicit stakeholder involvement in auditing the context of the study area, the identification of transportation needs and development/evaluation of potential alternative solutions.
- Develop a transportation needs assessment for the study area based on an analysis of the roadway corridor performance and a context audit of the area.
- Establish a NEPA-ready Purpose and Need based on the transportation needs assessment, agency input and stakeholder input through the PEL process. Obtain FHWA concurrence and stakeholder consensus for the Purpose and Need
- Develop an alternatives' framework document that addresses the major design decisions, criteria and assumptions that will guide the development and evaluation of alternatives and their design treatments.
- Establish through working sessions with FHWA, LCDOT, IDOT/BLRS and resources agencies the appropriate level of engineering and environmental detail that will be applied to the process.
- Develop design year (2050) socio-economic/travel forecasts for the No-Build and Build Alternative(s) with agency and stakeholder input, in coordination with CMAP and other local agencies.
- Develop GIS database for use in alternatives development and evaluation. Published and available data pertaining to environmental resources and land use will serve as the primary source of information to build the database. Some field reconnaissance and verification will be performed to supplement information for critical areas, and resources.
- Identify multi-modal alternatives with agency and stakeholder input. A set of initial alternatives (combining appropriate modal elements) will then be developed to a functional level of detail. The initial alternatives will identify the layout of new or improved facilities, and design treatment options. Initial alternatives will be developed to a level of detail which will allow an assessment of feasibility, order or magnitude costs, and relative potential impacts. Initial alternatives will include alternative intersection types, such as roundabout designs. The initial alternatives will be evaluated to allow identification of build alternatives which address Purpose and Need while minimizing environmental effects. Alternatives to be carried forward will be identified through the initial alternatives evaluation process and will be documented in the Final PEL Report.
- Develop and refine build alternatives carried forward with agency and stakeholder input. Build alternatives carried forward will be developed to greater engineering detail (concept design) to identify estimated construction limits of each alternative. Additional detail for the environmental resource information is anticipated at this stage for further assessment of the impacts. The concept design will provide the necessary level of detail to evaluate the environmental acceptability, engineering viability, and planning level costs of the build alternatives. The build alternatives will be evaluated and a narrowed list of recommended alternatives will be identified to be carried into NEPA. Final preparation of environmental and engineering reports will



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

document the recommended alternatives as well as a No-Build alternative which may be the recommendation for all or portions of the study area.

- Develop project costs and schedule for implementation of the recommended alternative(s), and necessary documentation for cost sharing opportunities or commitments through the public involvement process.
- Develop the PEL Report as a technical summary of the engineering and environmental considerations of the final recommended improvements for incorporation into future Phase I studies.

Project Schedule

The estimated completion duration for the PEL work effort is anticipated to be **18 months** following authorization to proceed. The basis of this overall schedule assumes timely coordination and delivery of required resource information to perform the necessary environmental evaluations, public involvement activities, and approvals following contract execution and authorization to proceed.

Work Structure

As described in the preceding section, this document describes the proposed work structure for the development of a PEL for the Fairfield Road Corridor Study. A work breakdown structure has been developed with the scope of services description in the following section identifying tasks to be contracted. For tasks to be contracted estimated work hours and costs for services to be performed are included in this proposal. The following section identifies assumptions, work responsibilities and task deliverables as appropriate for the completion of the Fairfield Road Corridor Study.

100 SCOPE OF SERVICES

Task 1—Collection, Compilation, Review & Evaluation of Database

This task commences with the development of a list of preferred data requirements and sources, including engineering and environmental data, plans, report and documents.

1.1—Data Collection

Available resource information relevant to the project will be obtained. This will include contacting relevant resource and regulatory agencies and accessing known resource databases through coordination with LCDOT and IDOT. The information will be obtained in a digital format, where possible, including but not limited to historical ADT, local land use and zoning, emergency services travel routes, GIS aerial photography, Pace bus routes, bicycle plans, public service boundaries and amenities (school districts, fire districts, park districts, etc.), and property identification numbers for adjacent properties. Other available data will be sought from the Village of Round Lake, the Village of Wauconda, and Lake County Agencies pertinent to the corridor. It is assumed that resource issues for which data will be sought consist of wetlands, biological and cultural resources, water resources including floodplains and designated floodways, socio-economic data, parks and recreational areas, areas of special habitat, water quality data, and special and hazardous waste sites. Data will also be collected from CMAP, release of the 2050 forecast of population and employment in electronic format.

Under this task, a GIS database will be developed for the entire project study area. The database will be developed using the above published and compiled data from public agencies, as well as field data compiled during the project development process. The database will serve to tabulate environmental and physical effects of alternatives. The Consultant will review the online Lake County assessor website to determine



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

the property identification numbers and owners of adjacent properties. A table and exhibit will be created. It is anticipated new information will surface over the course of the project study process from a variety of sources. These data will be assessed for inclusion in the database. The database will be updated on regular intervals throughout the project.

Assumptions:

- Obtain Maps, Inventories, Plans, Reports, GIS Data, and Resource Inventories: IDOT, Lake County, CMAP, IDNR, USFWS, IEPA, Communities, FEMA, COE, SHPO, Utilities/Authorities, Forest Preserves, Metra.
- Organize data in electronic libraries as appropriate (electronically obtained or scanned files)
- It is anticipated that effort will be required to source GIS data in database.
- It is anticipated the database will be updated on a monthly basis through an anticipated 36 month duration from project start.
- This task includes effort for internal project team coordination (Consultant, and LCDOT) related to the database compilation effort.

Work Responsibilities:

- HDR: Task Lead
- Baxter & Woodman, Inc. (B&W) – Support Data Compilation/Library Development

Deliverables:

- Project Data Library (electronic) and GIS Database
- Property Identification Table and Exhibits

1.2—Traffic Counts

The Consultant will compile existing and historic data using multiple data sources including Miovision video-based counts, LCDOT's Passage/Automated Traffic Signal Performance Measures (ATSPM), unmanned aerial vehicle (UAV) traffic recordings, and Replica HQ or other web-based data tools that provides data for population areas including mobility, economic activity, travel information and land use.

Twenty-four hour counts using miovision cameras will be utilized at the following locations and provide 24-hour intersection turning movement counts during the same weekday, between Tuesday and Thursday. Weekend counts will be required at locations where the site peak hour traffic is anticipated to occur on Saturday or Sunday, such as a church or commercial development. The traffic data shall include the vehicle classification (passenger car, single unit, and multiunit) as well as pedestrian and bicyclist counts where crosswalks are present.

- Fairfield Road at Long Lake Drive
- Fairfield Road at IL Route 134 (Weekday and Weekend)
 - IL Route 134 at N Fox Trail (Weekday and Weekend)
 - IL Route 134 at Commercial Blvd (Weekday and Weekend)
 - IL Route 134 at W RI/RO (Weekday and Weekend)
- Fairfield Road at Town Center Drive (Weekday and Weekend)
- Fairfield Road at W Tyler Ave
- Fairfield Road at Falcon Blvd
- Fairfield Road at Hart Road
- Fairfield Road at Old Farm Road
- Fairfield Road at Nippersink Road
- Fairfield Road at Chain O Lakes Mobile Homes Entrance (Weekday and Weekend)
- Fairfield Road at IL Route 120 (Weekday and Weekend – may not be needed due to IDOT Study)



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- IL Route 120 at N Center Lane (Weekday and Weekend – may not be needed due to IDOT Study)
- Fairfield Road at Townline Road
- Fairfield Road at IL Route 60 (Weekday and Weekend)
- Fairfield Road at Chardon Road
- Fairfield Road at Gilmer Road (Weekday and Weekend)

Consultant will utilize LCDOT's Automated Traffic Signal Performance Measures (ATSPM) portal which provides a wide range of data and metrics related to traffic volumes, signal timing parameters and performance measures at select signalized intersections. Within the study area, data from the following intersections is available from the ATSPM portal:

- Fairfield Road at Nippersink Road
- Fairfield Road at IL Route 120
- Fairfield Road at IL Route 60

The Consultant will utilize a UAV to record traffic flow during peak hour traffic at the following intersections. The recordings will be utilized to confirm traffic movements from Miovision, to view traffic queues and to understand potential safety concerns.

- Fairfield Road at IL Route 134
- Fairfield Road at Hart Road
- Fairfield Road at Nippersink Road
- Fairfield Road at IL Route 120
- Fairfield Road at Townline Road
- Fairfield Road at IL Route 60
- Fairfield Road at Chardon Road
- Fairfield Road at Gilmer Road
- Chinmaya Mission (South of IL 60)

The Consultant will evaluate information available from Replica HQ (replicahq.com) or other web-based data tools that provides data for population areas including mobility, economic activity, travel information, and land use. This information will help evaluate on a more micro-level, the travel demand of the public relative to potential future alternatives for the Fairfield Road corridor. This information will be used in conjunction with and not modifying the CMAP 2050 forecasts to evaluate how users may travel in the study area. For the cycling community, Strava is another online data source to reference for cycling travel demand. This data will help identify the potential demand for cycling users in the study area.

Assumptions:

- It is assumed 1 kick-off meeting and 1 review meeting will be required under this task for the internal project team (Consultant and LCDOT).
- Early traffic coordination efforts have been assumed for budgeting purposes under this task.
- Any subscription costs for data will be included as a direct cost for the project
- UAV videos will be used for Public Involvement as well.

Work Responsibilities:

- HDR: UAV videos
- B & W: Traffic Data Compilation Support, Traffic Database Review, Miovision Setup



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

Deliverables:

- Traffic Count Database

1.3—Utility Identification and Coordination

The Consultant will perform preliminary utility coordination and research. The field survey in Task 3 will locate above ground utilities, as well storm and sanitary sewer inverts and pipe sizes.

1.3.1 Initial Coordination/Data Collection

The proposed improvements will require coordination with public and private utilities that have facilities within the project corridor. The Consultant will coordinate with any utility companies/agencies found to have facilities located within the vicinity of the project limits through a JULIE Design Stage/Planning Information Request. A request will be made for these utilities to provide any available maps of existing facilities. It has been estimated that there will be up to ten public and private utilities to coordinate with for this project.

1.3.2 Utility Easement Research

The Consultant will perform research at and through the Lake County Recorder's office for utility easements as granted as separate documents and on recorded plats. Research will cover parcels of un-subdivided and subdivided property on both sides of Fairfield Road through the Village of Round Lake, Village of Wauconda, unincorporated Lake County and within existing ROW. Additional document requests will be made to both IDOT and LCDOT for records.

1.4—Field Trips

Field visits will be conducted for data that is readily apparent and easily gathered through windshield surveys. These field visits will initially include review of both environmental resources and land uses, as well as review of existing transportation facilities (condition, performance, and layout), and observational site visits. The field visits to be conducted with this task will consist of a survey of residential and commercial structures, an inventory of special lands (e.g. parks, recreation facilities, and Nature Preserves), identification of parking facilities, verification of USGS features, (e.g. cemeteries, schools, hospitals), and identification of major utilities and potential design constraints. As needed the Consultant will perform site visits to confirm survey and record data and perform general observations of driver behaviors, observe sight distances at intersections and driveways, and identify signing and other visual attributes of the corridor such as non-motorized travel usage and adjacent land uses.

Assumptions:

- It is assumed that seven topical areas will require additional field review (noise, wetlands, structures, cultural, public lands (4f, 6f), land use relationships, key community resources i.e. parks, churches, civic centers, and recreational facilities) – under separate task.

Work Responsibilities:

- HDR: Task Lead
- B&W – Field Visits

Deliverables:

- Field trip notes and photo log



Task 2—Mosaics

2.1—Prepare Project Mosaics

Ortho-digital photographic mosaics will be collected by Consultant via UAV Corridor flights for use in performing the study efforts. The Consultant will verify that the mapping files are compatible in terms of scaling, format, and perform adjustments to images as appropriate.

Assumptions:

- Consultant will create the digital files in Microstation DGN format.
- Two days of field time is anticipated. This task includes in office processing.
- Mosaics will be used for Public Involvement materials as well.

Work Responsibilities:

- Baxter & Woodman: Task Lead

Deliverables:

- Project Ortho-digital Mosaics
- Verified and conformed Map Base File

2.2—Aerial Mapping Information

The Consultant will develop initial base maps from the ortho-digital aerial mapping collected, onto which project information and data will be overlaid. Information and data collected through Task 1 and Task 4 will be plotted onto the base maps for project study in analyzing existing conditions and initiating the study of feasible alignments/alternatives.

Work Responsibilities:

- Baxter & Woodman: Task Lead

Deliverables:

- Contour Maps/ Base Maps

Task 3—Surveys

In accordance with LCDOT Design Survey Procedures, the Consultant will provide surveying services to support the preparation of preliminary engineering and environmental studies for the improvement of approximately 4.6 miles along Fairfield Road from just north of Gilmer Road to Oakwood Drive in Lake County. Intersecting roadway surveys will be completed along the route, including IL Route 120, IL Route 60, and Nippersink Road, for an additional 2 miles. Survey work is expected to include establishing horizontal & vertical control, topographic & dtm surveys, hydraulic, and drainage surveys.

In addition, the Consultant will maximize the use of previous survey completed at the intersection of IL Route 134 and Fairfield Road. This will include verifying the accuracy of previously completed survey, obtaining supplemental survey to update features when needed, and merging these multiple topographic surveys.

3.1— Establish Horizontal / Vertical Control

Horizontal Control will be established in State Plane Coordinates (NAD83 2011 adj) utilizing the Trimble VRS network. Control Points will be established and cross-tied at approximately 1,000 feet intervals and on intersecting sideroad legs and shall consist of 5/8" rebar. Work under this task assumes 28 control points to be established.



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

Set and cross tie horizontal control points. Vertical Control will be established from the GPS observations, normalized between the control points and additional benchmarks set at approximately 1,000-foot intervals utilizing electronic leveling.

Work Responsibilities:

- Baxter & Woodman: Survey Lead

3.2—Topographic & DTM Surveys

Topographic survey crews will conduct survey along pavement surfaces (centerline, edge of road, gutter, sidewalks, driveways, parking lots, etc.) and utility/drainage structures.

Outside this topographic survey, the Consultant will utilize Unmanned Aircraft System and/or ground based Lidar to collect additional supportive data and merge with conventional survey. This will allow for expanded survey coverage over a greater area along the project limits. This method is anticipated in primarily rural sections of the roadways and delivers a +/- 3-5cm vertical tolerance. Field checks of the Lidar Data will be done to check for vertical calibration and relevant missing above ground topo features (utility structures, mailboxes, signs, etc.).

Trees with a diameter of 4" or greater within the existing right-of-way limits will be surveyed for location, size, tree species and health.

Surveying limits along Fairfield Road will be from just north of Gilmer Road to Oakwood Drive for 5.5 miles (29,000 feet) and are proposed to extend out 50 feet beyond apparent right of way limits east and west. Survey limits along IL Route 120 and IL Route 134 will be 1800 feet east and west and extend out 50 feet beyond apparent right of way. Survey limits along Nippersink Road and IL Route 60 will extend 1300 feet east and west.

Other sideroads within the Fairfield Road project limits will be surveyed for a length of 800 feet and for 25 feet beyond apparent right of way limits. The following sideroads included under this task are listed:

Chardon Rd	Old Farm Rd	Falcon Blvd
Townline Rd	Hart Rd	Tyler Ave

At the Lake County Forest Preserve District (LCFPD) parcel north of IL 120, the parcel will be surveyed for 1,600 feet in length at 435 feet in width

For budgeting purposes, the Total survey length is assumed to be approximately 47,800 feet.

Assumptions:

- The Lidar Data will be obtained and processed into a dtm model and merged with the survey data.
- Tree survey shall be conducted only within existing right-of-way within this task for tree sizes 4" or greater. The species and health determination of existing trees will be covered under task 4.5.3

Work Responsibilities:

- Baxter & Woodman: Survey Lead

Deliverables:

- Plan Drawing/Plotting of Existing Topography, Digital Terrain Model



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

3.3—Utility Surveys

Existing drainage inlets, manholes, outlets, and culverts will be surveyed for location and elevation. Measurements will be obtained to determine pipe inverts, size and direction of flow for storm and sanitary sewers. All other observable above ground utilities will be surveyed as well.

Work Responsibilities:

- Baxter & Woodman: Survey Lead

3.4—Hydraulic Surveys

Perform stream survey as per the IDOT Drainage Manual for hydraulic modeling purposes at center of channel and 100, 250, 500, and 1,000 feet upstream and downstream of the applicable drainage structures. The following waterway crossings are anticipated to be impacted by the improvements:

- Round Lake Drain – North of IL Route 134 (LCSMC is studying this culvert and; therefore not included)
- Manitou Creek – Between Nippersink Road and IL Route 120
- South of Townline Road (Culvert ID 272)
- South of Townline Road (Culvert ID 273)
- Lake Helen Drain – Between IL Route 60 and Chardon Road
- North of Gilmer Road (Culvert ID 297)

Work Responsibilities:

- Baxter & Woodman: Survey Lead

3.5—Survey of Underground Storage Tanks

Not Anticipated

Work Responsibilities:

N/A

3.6—Supplemental Design Surveys

Work under this task includes additional survey work needed as identified by the design consultant. For budgeting purposes, it is assumed 30 days of work allowance to allow for design surveys at various intersections including IL Route 134, Nippersink Road, IL Route 60 and Chardon Road. Additionally, the supplemental survey will be utilized for structural locations including retaining wall locations. A request will be given to LCDOT to perform the additional survey with an estimated effort for each location. Survey will not be performed without LCDOT approval.

Work Responsibilities:

- Baxter & Woodman: Survey Lead

3.7—Survey Management and Quality Control

Work effort includes work planning and monitoring the integration of survey data and deliverables into a Base Map/CADD product in accordance with the Lake County Design Survey Procedures. Work under



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

this task includes the Surveying Consultant's quality control and management efforts to perform the necessary survey work. Work under this task is separate from Task 20.3.

Work Responsibilities:

- HDR: Task Lead
- Baxter & Woodman: Survey Consultant

TASK 4—ENVIRONMENTAL

The Consultant, in coordination with LCDOT, will define the study area boundaries for evaluation of the physical and natural environment and examine environmental resources to support the alternatives development process of the Fairfield Road Corridor Study. Investigation of resources for the development and evaluation of initial alternatives will rely primarily on published and available information, in conjunction with fieldwork and windshield surveys, as needed, to confirm resource information and potential impacts.

It is assumed work under this task includes early resource impact assessments during the initial alternatives development, and potential impacts to the resources - for up to 4 initial alternatives - will be completed

4.1—Environmental Scan

.

The consultant will conduct a desktop review to identify environmental resources present in the study area. Findings will be incorporated into the Environmental Inventory Map in Task 4.4 as well as a Technical Memorandum. The following resource areas will be reviewed:

- General topography/character of the study area (landform, vegetation cover and drainages).
- Federally listed threatened and endangered species, state and federal sensitive species, and migratory birds.
- National, state, and local park lands and wildlife/waterfowl refuges.
- Designated wilderness areas or areas potentially suitable for such designation.
- Properties and sites listed on the National Register of Historic Places, the location of known eligible or nominated sites for inclusion on the NRHP, and areas where a high density of historic properties are expected to be located.
- Potential Section 4(f) properties.
- Sole source aquifers, riparian areas, wetlands as listed in the National Wetland Inventory and Lake County Advanced Identification (ADID) mapping, impaired waters, and other unique waterbodies.
- Known and potential hazardous materials sites.
- Area air quality attainment status.
- Existing or potential sensitive noise receptors (i.e., outdoor amphitheaters, picnic grounds, schools, residences, and churches).
- Census and other demographic data to identify potential environmental justice populations.
- Land and Water Conservation Fund (Section 6(f)) sites.
- Prime and unique farmland.
- Mapped floodplains and floodways and community floodplain development requirements.



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

Assumptions:

- The Environmental Scan activities will be conducted at the desktop review level only and are intended to provide an idea of potential environmental issues that may arise as specific projects and/or alternatives develop. The items to be conducted under this task are not intended to be suitable for NEPA clearance.
- The following is NOT included in the PEL scope:
 - A Section 106 cultural resource evaluation.
 - Wetland or ordinary high water mark delineation(s) per U.S. Army Corps of Engineers requirements.
 - Visual Assessment per FHWA guidelines.
 - Hazardous material phase I or II environmental site assessments, including soil or groundwater sampling.
 - Air or noise impact studies per FHWA and ITD Environmental Manual guidelines.
- Section 404 or floodplain permitting; Section 401 Water Quality Certification.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Environmental Scan Technical Memorandum

4.2—Environmental Survey Request Form

The Consultant will prepare an Environmental Survey Request Form (ESRF) and related attachments as required by IDOT to initiate the environmental resource field studies for the build alternatives (alternatives carried forward), and assumes coordination efforts for additional follow-up activities. Per IDOT guidelines, the Consultant is to indicate that this ESRF is to be processed under IDOT PEL procedures. An initial ESR will be submitted to IDOT for a desktop review by the Central Bureau of Design and Environment (BDE) of known environmental resources in the project area that should be considered as part of the PEL alternatives evaluation. The project team will also complete a review of other regional and local socio-economic and environmental databases that can be considered as part of the PEL alternatives evaluation

Assumptions:

- Limits of ESR are Fairfield Road from north of Gilmer Road to north of IL 134, assumed 50-ft outside existing right-of-way, and up to 1000-ft along various cross-streets and drives.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- 1 PEL-level ESRF Package (Forms, Exhibits, Backup Data);

4.3—Environmental Field Review/Reconnaissance

The Consultant will conduct an environmental field review to assist in the further identification and documentation of environmental resources within the area.

Assumptions:

- Field review does not include surveying or delineating of resources. Work under this task is separate from Task 1.4 (Field Trips).



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Field reconnaissance notes and photo log

4.4—Environmental Inventory Map

The Consultant will prepare an environmental inventory map (critical issues map) that includes environmental resources within the study area. This map will be developed using existing, publicly available GIS databases, and will be updated periodically and upon receipt of environmental survey data from fieldwork and from IDOT.

Assumptions:

- Publicly available GIS database information to be obtained under Task 1.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- EIM (Critical Issues Map)

TASK 5—PREPARE PLANNING & ENVIRONMENTAL LINKAGE (PEL)

The Consultant will lead the preparation of a PEL Report as a technical summary of the engineering and environmental considerations, assumptions, and analysis methodologies of alternatives for the Fairfield Road corridor. Through this task the Consultant will develop a NEPA-ready Purpose and Need (P&N) as well as the identification of a range of initial alternatives that will meet the needs of the project for further evaluation and study under future NEPA processes.

5.1—Purpose & Need Statement

The Purpose and Need will form the basis for identifying initial alternatives, and will be developed through a needs assessment, engineering analysis, and public outreach. This task will identify problems that will be alleviated by the proposed improvements and will result in defining a clear and concise project definition, purpose, and need. It is expected that the draft Purpose and Need Statement will be distributed for public review. Following public review, the Consultant will review and prepare a disposition to comments and prepare the final Purpose and Need Statement. It is expected that the Purpose & Need will be coordinated with key stakeholders, including regulatory agencies as appropriate.

Assumptions:

- The draft Purpose & Need statement will be identified based on early transportation performance studies, deficiencies and early stakeholder input through the CSS process – under separate tasks.
- Up to 3 review and revise cycles are assumed for coordination of NEPA Merger/FHWA review.
- Coordination efforts for the NEPA merger process (P&N) under separate task.

Work Responsibilities:

- HDR : Task Lead

Deliverables:

- Purpose and Need Statement (initial drafts, draft-for public review, final)
- Purpose & Need Chapter of PEL



5.3—PEL Report

In preparation of the PEL, the Consultant will complete the FHWA PEL Questionnaire for documentation of the PEL Study. The questionnaire and all technical reports produced as part of this scope will be included in the appendix of the PEL Report.

A draft report will be prepared for one round of LCDOT review and comment. The report will then be revised and provided to appropriate resource agencies and stakeholders for one round of review and comment. The Consultant will coordinate with LCDOT on revisions and then prepare a final draft to be provided to FHWA for final review and comment. The Consultant will incorporate FHWA comments and finalize the PEL report.

The Consultant will assist LCDOT in presenting the Final PEL Report to four (4) key project stakeholders as needed for concurrence.

Assumptions:

- Up to 3 review and revise cycles.
- 1 final document.
- Coordination efforts for 2 consultant staff to attend the 4 stakeholder presentations.

Work Responsibilities:

- HDR: Task Lead
- B&W: Roundabout Support

Deliverables:

- Draft and Final Planning and Environmental Linkages Report including FHWA PEL Questionnaire

TASK 6—DRAINAGE ANALYSIS

The Consultant will lead the preparation of the conceptual drainage investigation for the Fairfield Road Study. Work under this task includes an initial analysis of the existing drainage system, an analysis of existing outlets, an evaluation of the need for storm water detention and compensatory storage, and a concept review of potential proposed drainage improvements.

Assumptions:

- Field Evaluation: Perform a field evaluation of drainage conditions and structures within the project limits. Included under Task 1.
- Data Collection: Review of Hydraulic Atlases, Identified Base Floodplains, Streamstats, Wetland Inventory Maps, Lake County GIS. Included under Task 1.
- Topographic survey: Included under Task 3.
- Stream Survey: Included under Task 3
- Temporary Drainage Design: Not included. Will be designed in later Phase II Design.
- Rainfall Data: Bulletin 75 will be utilized for analyses in Phase I

6.1—Existing Drainage System

Work assumed and deliverables under this task includes the following:

- *Existing Hydrology* – This task involves the delineation of existing drainage areas and the calculation of their respective time and concentrations and runoff coefficients throughout the project limits. An exhibit will be prepared to show the project with respect to the existing drainage areas.



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- *General Location Drainage Map* - This task involves the preparation of the General Location Drainage Map to show the project with respect to the overall drainage features.
- *Identified Drainage Problems* - This task involves the documentation of identified drainage problems throughout the project limits.
- *Identification and documentation of Base Floodplains* - This task involves the identification and documentation of existing floodplains and floodways within the project limits. An exhibit will be prepared to show the project with respect to the existing floodplains and floodways.
- *Identify and documentation of Depressional Storage Areas* - This task involves the identification and documentation of existing depressional storage areas within the project limits. An exhibit will be prepared to show the project with respect to the depressional areas.

Work Responsibilities:

- B&W: Drainage Lead
- HDR: Drainage Support

6.2—Proposed Drainage System

Work assumed and deliverables under this task includes the following:

- *Documentation of Design Criteria* - This task involves documentation that the highway system meets certain design criteria as specified in Section 2-01 of the LDS/LDTMs and providing justification for those cases in which it does not. Lake County Watershed Development Ordinance will also be considered.
- *Evaluation of existing outlets* - This task involves the evaluation of existing outlets to determine their suitability for continued use and sensitivity to increases in rate and volume of runoff. The outlets to be evaluated are identified in Existing Drainage System, Section 1-00 of the LDS/LDTMs
- *Stormwater Detention Analysis* - This task involves a concept evaluation of detention requirements in accordance with Section 1-304.03 of the Drainage Manual Storm Water Storage and the Lake County Watershed Development Ordinance. Justification should be included to support the findings of either providing detention or omitting it. Task will include identifying locations to provide proposed detention including appropriate exhibits.
- *Right of Way Analysis* - This task involves a concept determination of the drainage right of way and easement requirements for proposed detention and compensatory storage facilities
- *Drainage Alternatives* - This task involves the qualitative analysis of an open drainage system vs. closed drainage system.
- *Local and other Agency Coordination* – Included in Agency Coordination.
- *Water Quality Best Management Practices (BMPs) Permanent Measures* - This task involves concept evaluation of potential water quality Best Management Practices (BMPs) that may be incorporated into the future Proposed Drainage Plans as specified in Section 2-08 of the LDS/LDTMs. The section also provides opportunity to provide justification for those cases in which the incorporation of BMPs is limited. Detailed design for water quality features is not included.



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- *Floodplain Encroachment Evaluation* - This task involves the concept evaluation of encroachments on Regulatory Floodways and unstudied Zone A floodplains. Regulatory Floodplains are those 100-year frequency floodplains which are mapped by the Illinois Department of Natural Resources – Office of Water Resources (IDNR-OWR) and/or the Federal Emergency Management Agency (FEMA). Task will include identifying locations to provide compensatory storage including appropriate exhibits.

Work Responsibilities:

- HDR: Drainage Lead
- B&W: Drainage support

6.3—Study Assembly

This task involves the organization, preparation and assembly a narrative to be included in the PEL study. This task follows completion of previous tasks.

Assumptions:

- Revisions should be anticipated, and the time required to implement those revisions are included in the individual tasks.
- Only the organizational time for those revisions is included in this task.

Work Responsibilities:

- HDR: Drainage Lead
- B&W: Drainage Lead

Deliverables:

- Narrative

TASK 7—ALTERNATE GEOMETRIC STUDIES

The Consultant will lead the development and evaluation of the alternatives. Under this task the identification of a range of initial alternatives, development of the build alternatives, and screening for the eventual recommendation of a Preferred Alternative will occur.

7.1—Feasible Alternatives

The Consultant will lead the development and evaluation of the range of alternatives for the Fairfield Road Study, including the no-build alternative and potential Transportation Systems Management (TSM) solutions. Under this task a range of alternatives that will meet the needs will be initially identified for the PEL, and preliminary alignments will be studied for feasibility and the support of environmental coordination efforts.

Assumptions:

- 1 overall schematic exhibit of potential preliminary alignments/alternatives is assumed to be developed on aerial base showing representative horizontal layouts and potential proposed right-way needs. Up five (5) preliminary alignments/alternatives are assumed to be developed for the overall corridor.
 - No-Build
 - Two Lane with shoulder widening (with urban vs rural sub alternatives)



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- Three Lane Roadway (with urban vs rural sub alternatives)
- Five Lane Roadway (with urban vs rural sub alternatives)
- Re-alignment
- For each corridor alternative up to 3 sub-alternatives will be developed at each intersection.
- The feasible alignments/alternatives will be identified based on early assessment of environmental factors, transportation performance studies and stakeholder input.

Work Responsibilities:

- HDR: Task Lead
- Baxter & Woodman: Roundabout

Deliverables:

- Preliminary Alignment/Alternative Exhibit, Alternatives Documentation Log
- Alternatives Development and Methodology Memorandum (draft, final)

7.2—Initial Alternatives Development and Evaluation

The Consultant will develop a set of Initial Alternatives on the basis of findings of P&N and Feasible Alternatives effort identified through Task 5, and through its stakeholder involvement coordination efforts (CSS process). It is anticipated that at this stage, initial alternatives will reflect potential modal improvements (such as roadway and active transportation facilities) which collectively address the transportation objectives, and generally be developed along the existing Fairfield Road corridor. Initial Alternatives will be developed with consideration of stakeholder input and in a manner consistent with planning and design parameters that will be established with a Planning Framework document for project criteria.

Initial Alternatives will be developed to a functional layout level of detail to allow an initial assessment of engineering viability, potential environmental issues, and relative planning level costs. The functional layout will consist of the development of potential changes in alignment locations, conceptual sections, representative access types (such as intersection types, access management strategies), and associated worst-case construction footprints. At this stage of development, the functional design exhibits will be prepared to represent the horizontal layout of the alternatives and be developed with consideration of vertical controls (allowable vertical grades), however, vertical alignment studies and exhibits will not be prepared at this stage, and it is assumed vertical alignment will generally follow the existing Fairfield Road facility.

For budgeting purposes, it is assumed that up to 4 Initial Alternatives will be developed. Initial Alternatives will be presented as functional drawings on an aerial photo base. General roadway, access management, active transportation, retaining walls location and preliminary construction footprint locations will be identified on the exhibits. It is expected the initial alternatives will study a range in horizontal alignments, conceptual sections, and access management strategies. Evaluation findings will be presented to LCDOT for review and concurrence. Initial corridor alternatives will include:

- Two Lanes with widened shoulders (with urban vs rural sub alternatives) including up to two intersection sub-alternatives.
- Three Lanes (with urban vs rural sub alternatives) including up to two intersection sub-alternatives
- Five Lanes (with urban vs sub alternatives) including up to two intersection sub-alternatives



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- Re-Alignment including up to two intersection sub-alternatives

Assumptions:

- 4 Initial Alternatives developed and evaluated as functional drawings on aerial base exhibits consistent with established planning and design criteria.
- Schematic exhibits at scale 1" = 200'.
- Microstation and/or OpenRoads ConceptStation to be utilized to develop Initial Alternatives. Additional Remix and Streetmix may be used to development concept level plan views and typical sections.
- Conceptual typical section package depicting the Initial Alternatives characteristics will be developed.
- A combination of qualitative and quantitative evaluation factors will be considered to distinguish among the Initial Alternatives performance and environmental impact potentials, and the established Purpose & Need.
- It is expected through this work, identification for up to 2 Build Alternatives will result for further detailed evaluations, and assessments against the no-build alternative; and potentially result in a near term build alternative and long term build alternative.
- Coordination efforts for the NEPA merger process (Alternatives to be Carried Forward) are under separate task.

Work Responsibilities:

- HDR: Task Lead
- B&W: Roundabout Support

Deliverables:

- Planning Framework Document
- Initial Alternatives Exhibits and Conceptual Sections Package
- Initial Alternatives Evaluation Technical Memorandum

7.3 Alternatives Chapter of PEL

Following the identification of preliminary alignments, and initial alternatives development (under task 7.2), preparation of the Alternatives Chapter for the PEL will be initiated with this effort for recommendation to the Alternatives to be Carried Forward (Build Alternatives in Future Phase I). Discussions will summarize findings and public and agency comments which influence the alternatives development and discuss the overall alternative development process leading to the selection of the build alternatives. The features of the build alternatives will be discussed, and alternatives dismissed, and reasons for dismissal will be documented and presented through this task.

Work Responsibilities:

- HDR: Task Lead
- Baxter & Woodman: Roundabout

Deliverables:

- Alternatives Chapter of the PEL (draft, final)

Under this task the Consultant will prepare a memorandum identifying proposed procedures and methodologies for the alternatives' development and evaluation process – establishing tools, assumptions, level of detail, criteria and screening procedures.

7.4—Alternatives Cost Analysis

The Consultant will develop construction cost estimates at the various stages in the alternatives development process as described below.



7.4.1—Initial Alternatives Cost Estimate

The Consultant will develop an order of magnitude planning-level cost estimate for the Initial Alternatives. Cost estimates will include construction, right-of-way, and engineering costs. At this stage, cost estimates will be based on major construction elements with other elements estimated on a percentage basis for obtaining relative comparisons.

Assumptions:

- Up to 4 alternatives including intersection sub-alternatives are assumed under this effort.

Work Responsibilities:

- HDR: Task Lead

7.5—Team Coordination and Meetings

This task includes effort for internal project team coordination (Consultant and LCDOT) related to the Alternatives Development and Evaluations efforts.

3 coordination meetings with LCDOT are assumed for budgeting purposes. They are anticipated to occur prior to the development of the Initial Alternatives, after the development of the Build Alternatives, and before development of the Preferred Alternative.

Assumptions:

- 2 internal coordination meetings required for alternatives development and evaluation concurrences, and preparation of discussion materials.
- LCDOT utilizes an evaluation matrix to analyze alternatives based on metrics.

Work Responsibilities:

- HDR: Task Lead

TASK 8—CRASH ANALYSIS

8.1—Crash Analysis

Crash data provided by IDOT and LCDOT will be compiled and reviewed. Work under this task is separate from Task 1 and will help inform the needs assessment for the Fairfield Road study, and potentially lend to project objectives during the alternatives development. The effort will include the following:

- An crash diagram for each of the 17 intersections using the last 5 years of crash data and summarize findings, as required.
- An crash analysis to evaluate the frequency, severity, and recommended countermeasures.
- Roadway segments will also be analyzed with plot diagrams for each roadway segment between the 10 major intersections along the Fairfield Road corridor.

Assumptions:

- It is assumed that the Crash Analysis will be updated once during the term of the project to incorporate one (1) additional year of new data. This will require updating diagrams, exhibits, and the crash analysis report.
- Each intersection will prepare crash analysis plot diagrams, crash analysis, and recommended countermeasures to be included in the full Crash Analysis Report
- Intersections outside the study area will not be included in the Crash Analysis Report



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- Intersections of Fairfield Road at private access driveways will not be included in the Crash Analysis Report.
- The crash analysis does not include any statistical analysis as outlined in the Highway Safety Manual.

Work Responsibilities:

- HDR: Analysis Lead

8.2— Crash Analysis Document

Prepare a crash analysis technical memorandum with attachments to document the findings.

Assumptions:

- It is assumed the crash analysis document will be updated once during the term of the project to incorporate one (1) additional years of new data.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Crash Analysis Technical Memorandum

TASK 9—TRANSPORTATION MANAGEMENT PLAN

9.1 – TMP White Paper

A maintenance of traffic white paper will be developed for the PEL Alternatives that will include an efficient strategy for construction of the project while minimizing overall impacts operationally, to businesses, and active transportation facilities.

White paper will acknowledge FHWA Work Safety and Mobility Policy and IDOT District 1 Circular Memorandums regarding traffic control and staging.

Assumptions:

- It is assumed detours may be needed for various intersection or staged improvements along Fairfield Road Corridor.

Work Responsibilities:

- HDR: Analysis Lead
- B&W: Roundabout Support

Deliverables:

- TMP White Paper

TASK 10—TRAFFIC OPERATIONAL ANALYSIS

Traffic operational analysis will be performed for the existing, and future no-build and build alternatives. Simulation models will be conducted and used to assist in the coordination of signals, as well as presentation to agencies and public stakeholders. Work under this task also includes the preparation of Intersection Design Studies for intersections where improvements are proposed for the recommended preferred alternative, as described below.

10.1—Traffic Estimating

For Major Commercial Access, Minor Commercial Access and Other commercial access, the weekday AM peak hour and the Weekend Mid-day peak hour will be estimated using the ITE Trip Generation Manual and calibrated utilizing other available traffic counts.

**Lake County Division of Transportation**

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

Work Responsibilities:

- HDR: Task Lead

10.2— Traffic Balancing

Utilize existing traffic counts from the various intersections taken on various weekdays and weekend days to balance the traffic across the corridor. Prepare exhibits to demonstrate how the traffic was balanced in the weekday AM and PM peak hours and the Saturday midday peak hour. Prepare a memorandum discussing methodology and findings.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Traffic Exhibits
- Traffic Methodology Technical Memorandum

10.3— Traffic Forecasting

Based on existing balanced traffic counts, develop projected 2050 traffic volumes for proposed intersection alternatives in accordance with FHWA guidelines. The task includes developing peak hour intersection turning movements balanced along the corridor for the 2050 planning year. These balanced 2050 peak hour turning movements will be used for intersection capacity analyses and simulations. Coordinate with IDOT and the Chicago Metropolitan Agency for Planning (CMAP) for concurrence on 2050 traffic projections. Consultant will prepare correspondence letters with CMAP.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Traffic Exhibits
- Traffic Methodology Technical Memorandum

10.4— Capacity Analysis

Work under this task includes capacity analysis at existing intersections and assumes the evaluation of roundabout and signalized alternative intersections will be performed. Intersections analyzed will be coordinated appropriately with IDOT to limit the number of alternatives analyzed for each intersection, for budgeting purposes the following is assumed:

Intersections to be Analyzed
Fairfield Road at Long Lake Drive
Fairfield Road at IL Route 134
IL Route 134 at N Fox Trail
IL Route 134 at Commercial Blvd
Fairfield Road at Town Center Drive*
Fairfield Road at W Tyler Ave
Fairfield Road at Falcon Blvd*
Fairfield Road at Hart Road

**Lake County Division of Transportation**

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

Fairfield Road at Old Farm Road
Fairfield Road at Nippersink Road
Fairfield Road at Chain O Lake Mobile Home Entrance*
Fairfield Road at IL Route 120
IL 120 at N Center Lane*
Fairfield Road at Townline Road
Fairfield Road at IL Route 60
Fairfield Road at Chardon Road
Fairfield Road at Gilmer Road

*Synchro analyses only

Assumptions:

- 13 intersection capacity analyses using Highway Capacity Software (HCS) for the following traffic years assuming a no-build analysis and two proposed alternatives for each intersection (See Table):
 - Existing traffic and traffic signals
 - 2050 traffic and traffic signals
- 3 intersection capacity analyses using Sidra Software for 2 proposed roundabout alternatives at each intersection for 2050 traffic.
- Sensitivity testing has been included to determine the need for interim improvement alternatives.

Work Responsibilities:

- HDR: Task Lead
- B&W: Task Support – Sidra Software

10.5— Traffic Simulations

Work under this task includes the use of Synchro simulations to be performed for the Fairfield Road Study. Simulations will be coordinated appropriately with LCDOT to limit the number of alternatives analyzed, for budgeting purposes the following is assumed:

Assumptions:

- Traffic simulations (AM and PM peak hours) will be developed from IL Route 134 to Gilmer Road utilizing Synchro software for the following alternatives:
 - No-build alternative
 - 3 proposed corridor Build Alternatives

Work Responsibilities:

- HDR: Task Lead

10.6— Traffic Signal Warrant Studies

Perform a traffic signal installation warrant analysis using existing traffic data at the following intersections in accordance with MUTCD guidelines.

Traffic Signal Warrant Analyses
Locations

1. Fairfield Road at Long Lake Drive
2. Fairfield Road at IL Route 134

**Lake County Division of Transportation**

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

3. IL Route 134 at Fox Trail Road
4. Fairfield Road at Hart Road
5. Fairfield Road at Nippersink Rd
6. Fairfield Road at IL Route 120
7. Fairfield Road at Townline Road
8. Fairfield Road at IL Route 60
9. Fairfield Road at Chardon Road
10. Fairfield Road at Gilmer Road

Work Responsibilities:

- HDR: Task Lead

10.7— Traffic Analysis Technical Memorandum

Prepare package for LCDOT to analyze traffic signal warrants, traffic counts, and intersection capacity analyses. The signal warrant analysis includes using the IDOT District 1 Signal Warrant Worksheet Procedures and Review spreadsheets. A summary of all intersections will be provided along with recommendations. A summary of all intersection capacity analyses will be provided for all analyzed intersections and alternatives. Tables will be provided for ease of comparison of the different alternatives. Level of Service deficiencies will be identified. The report will include a summary of the existing traffic volume adjustments made due to existing environmental conditions. A discussion will be included how this relates to the 2050 traffic projections for the intersections.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Traffic Operational Analysis Technical Memorandum

TASK 11—CONCEPT STRUCTURAL DESIGN

The Consultant will lead the development and evaluation of the alternatives related to the following:

- Grade separation of Fairfield Road and the Metra Rail Line north of IL Route 134;
- Pedestrian Grade Separation Crossing of Fairfield Road north of IL Route 120;
- Proposed culvert extension at Manitou Creek
- New Box Culverts at
 - Round Lake Drain (Assumed to be designed by LCSMC)
 - Lake Helen Drain
 - Crossing North of Townline Road (ID 273)
- Various retaining walls along Fairfield Road

The Consultant will conduct site visits to observe existing conditions at each structure location under Task 1.4 – Field Trips.

11.1—Grade Separation of Fairfield Road and Metra Rail Line north of IL Route 134



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

The Consultant will develop concept level alternatives (2) for a Grade Separation near the intersection of Fairfield Road and IL Route 134. The concepts will be utilized to determine high level costs to construct the grade separation. The costs will be utilized to determine a benefit-cost ratio for the proposed improvements to decide if a grade separation is warranted. A memorandum will be prepared documenting the evaluation.

Assumptions:

- The study will be an update to the previous grade separation feasibility study performed by HDR in 2009
- It is assumed a grade separation is not warranted; and therefore, preliminary design is not included.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Grade Separation Feasibility Memorandum

11.2—Pedestrian Grade Separation of Fairfield Road north of IL 120

The Consultant will develop concept level alternatives for two (2) at-grade alternatives and one (1) grade separation alternative between Kestrel Ridge Forest Preserve and Nippersink Forest Preserve at Fairfield Road. The concepts will be utilized to determine high level costs and impacts to construct each alternative. A feasibility memorandum will be prepared providing the advantages and disadvantages of each of the alternatives

Assumptions:

- The study is intended for the Forest Preserve District.
- Preliminary design of recommended alternative(s) is not included.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Concept Level Exhibits for Each Alternative
- Pedestrian Crossing Feasibility Memorandum

11.3—Culverts

Culvert inspections with abbreviated inspection reports will be prepared for three locations. Inspection reports will include repair recommendations.

The consultant will also prepare concept level exhibits for each roadway alternative for the following:

- Culvert Extension at Manitou Creek
- Box Culvert at Round Lake Drain (Assumed to be designed by LCSMC)
- Box Culvert at Lake Helen Drain
- Box Culvert at Crossing North of Townline Road (ID 273)

Assumptions:

- Preliminary Design not included.
- It is assumed (3) additional major crossings which are not currently box culverts will be evaluated as box culverts in proposed conditions after being analyzed under Bulletin 75 rainfall data.

Work Responsibilities:

- HDR: Task Lead

Deliverables:



- Four (4) abbreviated inspection reports

TASK 12—Public Involvement

12.1—Stakeholder Involvement Plan

The Consultant will develop a Stakeholder Involvement Plan (SIP) for the study in consultation with a Project Study Group (PSG) with input from LCDOT. The PSG will be formed in consultation with LCDOT, IDOT and FHWA and to provide a multi-disciplinary team which will provide critical guidance in the overall project development process, including development and implementation of the SIP.

The Consultant will conduct one-on-one interviews with local agency representatives including the Village of Round Lake and the Village of Wauconda to discuss methods for stakeholder involvement. For budgeting purposes, it is assumed that up to 4 interviews will be conducted with individual entities (such as local community officials), with up to 3 Consultant staff participating in each meeting. The Consultant will be responsible for meeting preparations and meeting summaries.

Based on the interviews with local officials, the Consultant will prepare a SIP for the study. This document will identify stakeholder agencies (regulatory/resource, local, transportation) and stakeholder groups which will be involved in the study process. Additionally, the SIP will include the following:

1. Community Context Audit Form
2. Identification of outreach techniques
3. Schedule and milestones for outreach events
4. Notification methods
5. Management of comments and comment response protocols
6. Media/social media plan

A preliminary stakeholder list will be developed as part of the SIP, and will include adjacent property owners, businesses, applicable merchant organizations, area civic organizations, schools, neighborhood associations, churches, and special interest groups.

Work under this task also includes the development of the timeframes agreement to establish the NEPA coordination schedule for the FAIRFIELD ROAD Study. Timeframes Agreement will identify the key milestones for the NEPA aspects of the project. The Consultant will prepare the Timeframes Agreement using the form developed by FHWA and IDOT and will manage and update the Timeframes Agreement through the duration of the project.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Timeframes Agreement (draft and revised draft, with ongoing updates as the project progresses)
- Initial Stakeholder Involvement Plan (draft/ final)

12.2—Initial Agency Process Coordination

The Consultant will participate in early discussions with LCDOT to initiate approach for engaging project stakeholders, including:



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- Identify potential stakeholders, including agencies, local governments, community groups, and the general public.
- Discuss methods for communicating with stakeholders
- Identify potential project planning groups, if appropriate
- Address the public involvement requirements of the CSS and NEPA process

For budgeting purposes, it is assumed that up to two (2) meetings with up to three (3) Consultant staff.

Assumptions:

- Expected outcome of this effort is agency concurrence to a development approach that will guide the EA study/SIP process for this project.

Work Responsibilities:

- HDR: Task Lead

12.3—Project Website Support

The Consultant will coordinate and develop a framework (including an annotated outline for content and functionality) for a Project Website to be developed by the Consultant. This will be in addition to the typical project website prepared by LCDOT.

The website content will include at the following information/capabilities for the project team and stakeholders:

- List of project stakeholders
- Background project information including schedule
- Provide list of Frequently Asked Questions (FAQs) and responses
- SIG and Public Information Meeting/Public Hearing notifications
- Project Team contact Information
- Resource submitting questions and comments
- Posting of project documents for information and/or review
- Subscribers are invited to receive project updates.

Assumptions:

- The website will be located on a project specific internet domain acquired by the consultant and linked to the LCDOT Project website.
- Website content will be developed and maintained throughout the PEL Study development process for 18 months.
- All website content will be reviewed and approved by LCDOT before posting.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Draft annotated outline for website content
- Website

12.4—Project Study Group Meetings

Conduct project stakeholder meetings with IDOT, FHWA, LCSMC Village of Round Lake, Village of Wauconda, Fremont Township, Avon Township, and up to three groups to introduce the project team,



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

identify stakeholders for involvement in the Stakeholder Involvement Group (SIG), discuss and coordinate the project, seek input, review project specific elements, and review technical studies.

Assumptions:

- Assume 2 project study group meetings for the corridor including two dry runs.

Work Responsibilities:

- HDR: Task Lead
- B&W: Meeting Support

12.5—Stakeholder Involvement Group

A Stakeholder Involvement Group (SIG) will be convened at the beginning of the project and will meet throughout the project development process. Members of the committee will be up to 30 members and may include representatives from the Village of Round Lake, Village of Wauconda, Fremont Township, Avon Township, Fire and Police Districts, Forest Preserve District, and adjacent businesses and property owners. For budgeting purposes 4 SIG meetings with up to 5 Consultant attendees. Attendance at dry run meetings are also included with up to 3 consultant attendees.

It is assumed the SIG meetings will either be virtual or in person.

- Meeting 1 - Introduce team, project development process and schedule. Present and review SIP and complete a Context Audit. Present traffic and safety data and analysis.
- Meeting 2 - Present Draft Purpose and Need statement; present 'Issues and Opportunities' exhibits; present potential alternatives and ask for additional ideas.
- Meeting 3 & 4 – Present Concept Alternatives and analysis of each. Conduct a workshop to review the screening of the alternatives. Get public input on which alternatives best address the Purpose and Need. The outcome of these meetings will provide direction to proceed with Public Meeting 2 and development of the finalist alternative(s).
- Other tasks related to the SIG meetings include:
 - Identify location for each SIG meeting with assistance from LCDOT.
 - Prepare Meeting Agenda and submit to LCDOT for concurrence.
 - Prepare SIG meeting invite letters and emails, and distribute pre-meeting materials.
 - Prepare meeting presentation and materials.
 - Advance Dry Run meetings with LCDOT
 - Staff attendance at SIG meetings
 - Prepare SIG meeting minutes/summary and distribute

Work Responsibilities:

- HDR: Task Lead
- B&W: Meeting Support

12.6 – Community Engagement - Public Meetings

HDR will provide logistical planning and execution for two open house public information meetings. It is assumed 1 public meeting will occur virtually and 1 public meeting will occur in person with a virtual component accompanying it.

Activities for each public meeting include:

- Development and management of a workback schedule and meeting plan
- Attendance at a pre-dry run meeting
- Attendance at a dry run meeting



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- Design and production of informational materials and collateral, including staff nametags and sign-in sheets
- Advertisement of the meeting, including:
 - Display ad in The Daily Herald
 - Draft press releases to be provided to LCDOT for distribution
 - Postcard mailing to civic organizations, elected officials, and major area employers
 - E-notifications to be sent out using Mail Chimp
 - Variable message signs to be set up on Fairfield Road
- A companion online meeting (separate task - see Task 15.7 below)
- Attendance at the open house meetings (8 consultant staff at each)
- Coordination with a court reporter to record public comment at the public hearing
- Preparation of a meeting summary to include public comments, questions, concerns raised by the public

Work Responsibilities:

- HDR: Task Lead
- B&W: Meeting Support

12.7 – Digital Materials

Videos and Visualizations: Consultant will complete a UAV flight of the project area (Task 1 & 2) and develop a series of four videos to be used at the three public open houses and public meeting. Consultant will prepare visualizations of the preferred alternative to be included in the third video.

On-Demand Online Meetings: Consultant will develop a companion on-demand online meeting for each public meeting and public hearing. A link to online meetings will be provided to LCDOT to be included on project sites or social media posts.

Assumptions:

- Videos will highlight the purpose and need of the project (existing conditions), educational information relevant to the study, two proposed corridor alternatives, and a preferred alternative.

Work Responsibilities:

- HDR: On-Demand Online meetings Lead
- B&W: Video development and production lead, visualizations, and materials support

Deliverables:

- Video Production:
 - One project overview video demonstrating project needs
 - UAV footage showing traffic queuing, safety concerns, environmentally sensitive areas, and drainage needs.
 - One visualization videos for the two separate corridor alternatives
 - Live drone / 3D overlays at major intersections
 - Design year traffic simulation visualizations (hours included in traffic analyses)
 - 3D overlay compositing
 - One educational video regarding PEL Studies
- Online meeting content document



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- Basic online meeting template
- Online meeting graphics/media
- Staging online meeting for review
- Integration of identified third party services, i.e., SurveyMonkey
- Set up of hosting and domain
- Final online meeting launch

12.8 – Project Materials Development

Consultant will develop and design key project materials for use throughout the project including: Project Brand, Project Templates, Project Fact Sheet, Schedule/Process Graphic, Talking Points, Project Maps, and Standard Display Boards.

Three concepts will be created following a project branding exercise with LCDOT. LCDOT will determine the final brand direction based on those concepts. A brand suite will be provided to project outwards facing materials.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- One (1) suite of project branded templates including: PPT, email header graphic, agenda, summary, memo.
- One (1) Project Fact Sheet – 11x17, front back, color, #1000
- Up to sixteen (16) standard display boards

TASK 13—Agency Coordination

13.1—Regulatory/Resource Agency Coordination

The Consultant will prepare materials for and lead coordination meetings with resource and regulatory agencies. Expected points of coordination will include discussions of the project scope, resource study methodologies, Purpose and Need, and range of alternatives.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- Merger meeting packets (draft, revised draft, final)
- Meeting materials (handouts, PowerPoint presentation, display boards, meeting minutes)

13.2—Lead Agencies Coordination

The Consultant will prepare for and attend meetings and associated ongoing coordination activities with LCDOT, FHWA and IDOT. It is envisioned that this coordination group will meet in the early stages of the project, and as needed as the project progresses with IDOT direction. The coordination efforts will assess and reassess direction established early-on and determine if the level of detail is satisfactory. In addition, the Consultant will lead coordination for the pedestrian crossing between Kestrel Ridge Forest Preserve and Nippersink Forest Preserve. Per existing IGA, LCDOT will install the crossing but Lake County Forest Preserve District (LCFPD) will install the path on its property (east and west of Fairfield Road).



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

Assumptions:

- The Consultant will be responsible for the preparation of meeting materials and meeting summaries.

Work Responsibilities:

- HDR: Task Lead
- B&W: Meeting Support

13.3—External Agencies Coordination

The Consultant will organize, prepare for and attend meetings and associated ongoing coordination activities with involved local agencies, Lake County, transportation agencies and other interested public agencies. The Consultant will assist LCDOT in coordination of meeting logistics, material preparation, and minutes of the meetings.

Work under this task assumes support preparation of external agency correspondence throughout the course of the study. These could include project information or data collection coordination letters, and responses to agency comments received during the study.

Work Responsibilities:

- HDR: Task Lead
- BW: Meeting Support

TASK 14—Project Management/Administration

14.1—Project Kickoff

The Consultant will conduct three (2) Project Kickoff Meetings – one with LCDOT staff, , and the other with Consultant Team staff. The purpose of these meetings will be to discuss project team organization, roles/responsibilities for project staff, decision making procedures, change management procedures, and communication/coordination protocols. For budgeting purposes, it is assumed that up to 4 Consultant staff will participate in the LCDOT Kickoff Meeting, and that up to 10 Consultant staff will participate in the Consultant Team Kickoff Meeting.

The Consultant will prepare detailed Project Instructions and an Initial Work Plan, which will document established roles, responsibilities and procedures for executing the project work effort.

Assumptions:

- Expected outcome of this effort is DOT and Consultant team concurrence on project work approaches, work plan, coordination procedures, and responsibilities.

Work Responsibilities:

- HDR: Task Lead
- B&W: Meeting Support

Deliverables:

- Project Instructions and Initial Work Plan

14.2—Project Management

The Prime Consultant will lead, assist and monitor Project Management activities related to the Fairfield Road Study contained in this scope of services. The anticipated period of performance for this task is 36 months and includes:



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

- *Work Planning and Scheduling* – The Prime Consultant will manage the overall Work Planning and Scheduling for the technical services, agency coordination, and public involvement activities contained in the scope of services.
- *Project Management and Coordination* – The Prime Consultant will provide project management and coordination support services including meeting scheduling and preparations, general administrative support, and related project coordination support.

Assumptions:

- Monthly check in meetings will be required with LCDOT Project Manager (virtual)
- Weekly efforts include coordination with team members, various stakeholders, permitting agencies, LCDOT staff and IDOT BLRS (approx. effort 4 hrs/week)

Work Responsibilities:

- HDR: Task Lead

14.3—Administration

Project administration including payroll, billing, and filing will be performed. For budgeting purposes monthly progress meetings with LCDOT are assumed. Work under this task includes project administration by subconsultants as well as includes related internal coordination meetings.

The Prime Consultant will monitor the overall schedule and budget performance of services contained under this scope of services, including preparation of associated progress reports, invoices and Monthly Status Reports in compliance with LCDOT requirements. Involved subconsultants will provide related progress reporting/invoicing for their respective services.

Work Responsibilities:

- HDR: Task Lead
- B&W: Support

Task 15—QA/QC

15.1—Quality Plan Development

The Consultant will prepare a Quality Management Plan for the PEL Study efforts.

Assumptions:

- The Initial Quality Plan development is included in the contract as well as additional effort for development of an updated Quality Plan - up to 2 assumed updates for the duration of the project.

Work Responsibilities:

- HDR: Task Lead

Deliverables:

- QA/QC Plan (Initial, Updates)

15.2—Senior Review Meetings

The Consultant will conduct up to 6 senior review meetings through the duration of the Phase I Engineering and accompanying QA review documentation.

Assumptions:

- Up to 6 Senior Review Meetings will be conducted during the contract.



Lake County Division of Transportation

Fairfield Road Corridor Phase I Preliminary Engineering – North of IL 134 to North of Gilmer Road

Section No. 22-00999-85-ES

February 10, 2023

Work Responsibilities:

- HDR: Task Lead

15.3—Quality Reviews

The Consultant will conduct QA/QC reviews of Environmental, Engineering, and Public Involvement procedures, methodologies and deliverables in conformance with the established Quality Plan.

Assumptions, calculations, memorandums, reports, and plans will be thoroughly reviewed for accuracy and consistency before submittals and coordination efforts and accompanying QC review documentation.

Work Responsibilities:

- QA/QC Reviews – HDR , B&W

15.4—Document Management System Development

The Consultant will set up the document management system (including file structure, search system, file naming conventions), and prepare User Instructions and Procedures, for maintaining a project file and preparing an Administrative Record for the FAIRFIELD ROAD Study.

Assumptions:

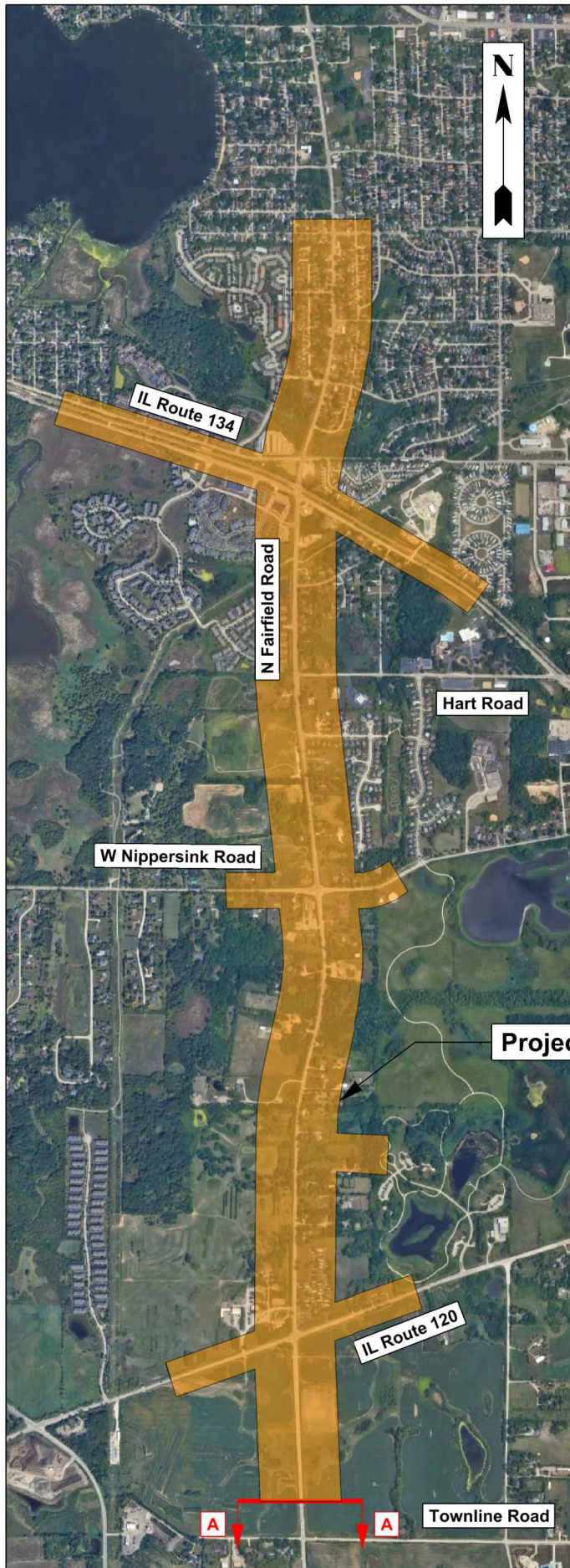
- Upon completion of project, the Consultant will provide the relevant files in support of the PEL study and Administrative Record.

Work Responsibilities:

- HDR: Task Lead, Document Management System Development, User Instructions/Procedures Development

Deliverables:

- Document Management System and User Instructions/Procedures



Project Location Map

Fairfield Road
N of IL Route 134 to N of Glimer Road



Local Public Agency	Prime Consultant (Firm) Name	County	Section Number
Lake County Division of Transport	HDR Engineering, Inc.	Lake	22-00999-85-ES

**EXHIBIT B
PROJECT SCHEDULE**

--

Proposed Activity	2023										2024									
	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sept		
Notice to Proceed	★																			
Task 1 Data Collection and Review																				
Task 2 Mosaics																				
Task 3 Surveys																				
Task 4 Environmental																				
Task 5 Prepare PEL																				
Task 6 Drainage Analysis																				
Task 7 Alternate Geometric Studies																				
Task 8 Crash Analysis																				
Task 9 Transportation Management Plan																				
Task 10 Traffic Operational Analysis																				
Task 11 Concept Structural Design																				
Task 12 Public Involvement						★	★		★		★	★	★		★		★			
Task 13 Agency Coordination																				
Task 14 Project Management																				
Task 15 QA/QC																				

- ★ PSG Meetings
- ★ SIG Meeting
- ★ Public Meeting

Local Public Agency	Prime Consultant (Firm) Name	County	Section Number
Lake County Division of Transport	HDR Engineering, Inc.	Lake	22-00999-85-ES

Exhibit C
Qualification Based Selection (QBS) Checklist

The LPA must complete Exhibit D. If the value meets or will exceed the threshold in 50 ILCS 510, QBS requirements must be followed. Under the threshold, QBS requirements do not apply. The threshold is adjusted annually. If the value is under the threshold with federal funds being used, federal small purchase guidelines must be followed.

☐ Form Not Applicable (engineering services less than the threshold)

Items 1-13 are required when using federal funds and QBS process is applicable. Items 14-16 are required when using State funds and the QBS process is applicable.

		No	Yes
1	Do the written QBS policies and procedures discuss the initial administration (procurement, management and administration) concerning engineering and design related consultant services?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Do the written QBS policies and procedures follow the requirements as outlined in Section 5-5 and specifically Section 5-5.06 (e) of the BLRS Manual?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Was the scope of services for this project clearly defined?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Was public notice given for this project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If yes Due date of submittal 02/21/22

Method(s) used for advertisement and dates of advertisement

Ad in NewSun published on 3/11/22 & 3/18/22
Email blast to LCDOT's consultant and contractor list on 3/11/22

5	Do the written QBS policies and procedures cover conflicts of interest?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Do the written QBS policies and procedures use covered methods of verification for suspension and debarment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Do the written QBS policies and procedures discuss the methods of evaluation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Project Criteria	Weighting
Technical Approach	25%
Firm Experience	15%
Specialized Experience	15%
Staff Capability	20%
Workload Capacity	10%
Past Performance	15%

8	Do the written QBS policies and procedures discuss the method of selection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
---	---	--------------------------	-------------------------------------

Selection committee (titles) for this project

County Engineer, Asst. County Engineer, Engineer of Traffic, Engineer of Design, Director of Planning, Project Manager, Design Engineer

Top three consultants ranked for this project in order	
1	HDR
2	CBBEL
3	Civiltech

9	Was an estimated cost of engineering for this project developed in-house prior to contract negotiation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Were negotiations for this project performed in accordance with federal requirements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	Were acceptable costs for this project verified?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12	Do the written QBS policies and procedures cover review and approving for payment, before forwarding the request for reimbursement to IDOT for further review and approval?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	Do the written QBS policies and procedures cover ongoing and finalizing administration of the project (monitoring, evaluation, closing-out a contract, records retention, responsibility, remedies to violations or breaches to a contract, and resolution of disputes)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Local Public Agency		Prime Consultant (Firm) Name		County		Section Number	
Lake County Division of Transport		HDR Engineering, Inc.		Lake		22-00999-85-ES	
14	QBS according to State requirements used?					<input type="checkbox"/>	<input checked="" type="checkbox"/>
15	Existing relationship used in lieu of QBS process?					<input checked="" type="checkbox"/>	<input type="checkbox"/>
16	LPA is a home rule community (Exempt from QBS).					<input checked="" type="checkbox"/>	<input type="checkbox"/>

Fairfield Road - North of IL 134 to North of Gilmer Road				9-Feb-23	
		Level of Effort - Hrs by Firm			Assumptions
		HDR	B&W	Total by Task	
Task 1	Collection, Compilation, Review & Evaluation of Database	582	258	840	
1.1	Data Collection and Review of Historical Studies	160	24	184	Includes GIS Database
1.2	Traffic Counts			420	
	Meetings (2)	4	4		
	Miovision Setup	2	218		
	ATSPM Review	16			
	UAV videos	176			8 loc (one weekday peak time - AM or PM) and 9 (one weekend peak time AM, Mid-Day or PM) @ 6 hrs/flight w/ 2 staff; 60 hrs processing
1.3	Utility Identification and Coordination	8		8	
1.3.1	Initial Coordination/Data Collection	40		40	
1.3.2	Utility Easement Research	80		80	
1.4	Field Trips	96	12	108	
Task 2	Mosiacs	8	120	128	
2.1	Prepare Project Mosiacs	4	60	64	
2.2	Aerial Mapping Information	4	60	64	
Task 3	Surveys	40	2,208	2,248	
3.1	Establish Horizontal/Vertical Control		202	202	
3.2	Topographic & DTM Surveys		1136	1,136	
3.3	Utility Surveys		120	120	
3.4	Hydraulic Surveys		150	150	15 hrs x 2 staff x 5 locations
3.5	Survey of Underground Storage Tanks		0	0	
3.6	Supplemental Design Surveys		600	600	30 days x 10 hrs x 2 staff
3.7	Survey Management and Quality Control	40		40	
Task 4	Environmental	268	0	268	
4.1	Environmental Scan and Tech Memo (High-Level)	80		80	
4.2	Environmental Survey Request Form			56	
	ESR (PEL Stage) desktop analysis of wetlands (NWI, LCWI), photolog form cultural resources of historic structures, initial screening (PESA)	56			
4.3	Environmental Field Review/Reconnaissance	60		60	3 days, ground truth inventory map
4.4	Environmental Inventory Map	72		72	
Task 5	Prepare Planning & Environmental Linkage (PEL)	508	0	508	
5.1	Purpose & Need Statement			208	9.6 miles total; 5.5 miles Fairfield Road
	P&N Statement (initial, public review, final)	120			
	P&N Chapter of the PEL	88			10 copies at 200 sheets
5.2	PEL Report			300	
	Draft	220			
	Final	80			
Task 6	Drainage Analysis	950	920	1,870	
6.1	Existing Drainage System			676	
	Existing Hydrology				
	Drainage Areas	6	200		
	Time of Concentration determination	4	100		
	Runoff Coefficient	4	100		
	General Location Drainage Map				
	Corridor		24		
	Identified Drainage Problems	8	48		
	Identified Base Floodplains		24		
	Identify Depressional Areas	8			
	Corridor		54		9 miles @ 6 hrs/mile
	Exhibits		96		
6.2	Proposed Drainage System			754	4 exhibits @ 24 hrs/each
	Design Criteria	16			
	Concept Outlet Evaluation				
	Corridor		70		approx. 26 outlets; 9 sensitive @ 4 hrs; others @ 2 hrs
	Stormwater Detention Analysis (Concept)				
	Corridor	40	120		4 alternatives @ 40rs each
	Right-of-Way Analysis (Concept)	12	24		
	Proposed Compensatory Storage	160			4 exhibits at 40 hrs/each
	Floodplain Encroachment Evaluation (Concept)				
	Corridor	120			3.14 miles of corridor adjacent ot floodplain @ 40 hrs/mile
	Exhibits	160			

Fairfield Road - North of IL 134 to North of Gilmer Road		9-Feb-23		
		Level of Effort - Hrs by Firm		Assumptions
		HDR	B&W	Total by Task
Water Quality (BMP) Concept Memo				
Corridor		32		
6.3	Drainage Chapter of PEL			440
Existing Drainage Exhibits		160		4 exhibits at 40 hrs each
Proposed Stormwater Detention Exhibits		160		4 exhibits at 40 hrs each
Narrative		60	60	Narrative
Task 7	Alternate Geometric Studies	3,354	146	3,500
7.1	Feasible Alternatives			1,898
Typical Sections Design		120		5 alternatives at 6 TS/Alt at 4 hrs/each
Corridor Schematics (ConceptStation)		558		5 alternatives at 9 sheets (1"=200') at 10 hrs/sheet plus 3 alternatives with two subs (urban vs rural) at 3 subs x 4 hrs/sheet x 9 sheets
Sub-Alternatives - Intersection Schematics		1020	80	5 alt @ 3 sub/alt @ 17 intersection @ 4 hrs each; plus roundabouts
Alt Dev and Meth Memorandum		120		
7.2	Initial Alternatives Development and Evaluation			1,440
initial alternatives (four alternatives) plan sheets		396		1" = 200' - 9 sheets @ 4 alts @ 8 hrs/sheet plus 3 alternatives with two subs (urban vs rural) at 3 subs x 4 hrs/sheet x 9 sheets
Intersection sub-alternatives		544	60	2 Sub-alternatives @ 4 alts @ 17 intersections @ 4 hrs each; plus roundabout
cross sections		400		Assume 50 cross sections at critical locations per alternative (4) @ 2 hrs/cross section
Typical Sections Update		40		
7.3	Alternatives Chapter of the PEL	60		60
7.4	Alternatives Cost Analysis			60
7.4.1	Initial Alternatives Cost Estimate	60		
7.5	Team Coordination and Meetings	36	6	42
				2 meet (3 HDR Staff x 6 hrs); 1 meet (1 B&W staff x6 hrs)
Task 8	Crash Analysis	456	0	456
8.1	Crash Analysis			336
Data Collection		96		Review 5-year crash data, request and review individual police reports for injury crashes, update 5 year crash data (1 times)
Crash Analysis		240		crash diagrams, crash prediction analysis, identify countermeasures, develop CMFs
8.2	Crash Analysis Document	120		120
				w/ exhibits update reports one time for new crash data @ 24 hrs per update
Task 9	Transportation Management Plan	40	4	44
9.1	TMP White Paper			44
Narrative		40	4	
Task 10	TRAFFIC OPERATIONAL ANALYSIS	2,120	96	2,216
10.1	Traffic Estimating			100
Existing Development		40		
Future Development		60		
10.2	Traffic Balancing			112
Traffic Exhibits		80		
Traffic Analysis Methodology Technical Memorandum		32		
10.3	Traffic Forecasting			224
Traffic Exhibits		64		Develop 2050 traffic, develop build scenarios for CMAP, draft letter, review CMAP data and compare to ReplicaHQ to augment CMAP gaps, review Strava
Traffic Analysis Methodology Technical Memorandum		160		
10.4	Capacity Analysis			564
Highway Capacity Software		312		2 hrs x 4 scenarios x 3 peak periods x 13 intersection Assuming only 13 out of 17 require HCS (4 scenarios = Existing AM+PM; no build AM+PM, Alt 1 AM+PM, Alt 2 AM+PM)
Sidra Software			96	3 intersections
Sensitivity Testing		156		1hr x 4 scenarios x 3 peak periods x 13 intersections
10.5	Traffic Simulations			976
Synchro Software/SimTraffic		856		40 hrs to build network; 17 x 3 peak periods x 4 scenarios x 4 hours
Custom Signal Timing		120		
10.6	Traffic Signal Warrant Studies	80		80
10.7	Traffic Analysis Technical Memorandum	160		160
				w/ revisions
Task 11	Concept Structural Design	1,052	0	1,052
11.1	Grade Separation of Fairfield Road and Metra Rail Line north of IL Route 134			284
Alternative Analysis				2 alts
Concept Study		160		60 hrs/alt plus narrative
Concept Exhibits		64		32 hrs/alt
Grade Separation Feasibility Memorandum		60		Up to 5 pages of text max
11.2	Pedestrian Grade Separation of Fairfield Road north of IL 120			240
Alternative Analysis				

Fairfield Road - North of IL 134 to North of Gilmer Road		9-Feb-23			
		Level of Effort - Hrs by Firm			Assumptions
		HDR	B&W	Total by Task	
Concept Evaluation		108			3 alternatives at 32 hrs each; plus EOPC for each alternative at 4 hrs/each
Schematic Exhibits		72			3 alts at 24 hrs each
Pedestrian Crossing Feasibility Memorandum		60			Up to 5 pages of text max
11.3	Culverts			528	
Existing Culverts to be Repaired (3 culverts)					3 existing culverts
Data Review and Field Sketch Preparation		24			x 8 hours/each
Culvert Inspection		48			x 8 hours/person x 2 staff/each
Photo Log		12			x 4 hours/each
Estimate of Probable Cost		48			x 16 hours/each
Abbreviated Inspection Reports		180			x 60 hours/each
Concept Exhibits		48			x 16 hours/each
Existing Culvert Extension (1 culvert)					1 extension at Manitou Creek
Data Review and Field Sketch Preparation		8			x 8 hours/each
Culvert Inspection		16			x 16 hours/each
Photo Log		4			x 4 hours/each
Estimate of Probable Cost		16			x 16 hours/each
Abbreviated Inspection Report		60			x 60 hours/each
Concept Exhibits		64			x 16 hours/each x 4 Roadway Alternatives
Task 12	Public Involvement	1,796	300	2,096	
12.1	Stakeholder Involvement Plan			216	
Kick-Off Meeting		16	4		4hrs x 4 HDR Staff plus 1 B&W Staff
Draft Timeframes Agreement w/ updates		40			
Final Timeframes Agreement		16			
Draft Stakeholder Involvement Plan		100			
Final Stakeholder Involvement Plan		40			
12.2	Initial Agency Process Coordination			76	
Identify Stakeholders		40			
LCDOT Meetings (2)		36			6 hrs x 3 HDR staff x 2 meetings
12.3	Project Website Support	184		184	Development and Maintenance
12.4	Project Study Group Meetings			192	
Meeting Preparation and Documentation		96	12		2 meetings x 48 hrs/meeting; plus B&W 12 hrs
Dry Run Meetings (2)		24			2 meetings x 3 HDR staff x 4 hrs
Meetings (2)		48	12		2 meetings x 4 HDR staff x 1 B&W staff x 6 hrs
12.5	Stakeholder Involvement Group			384	
Meeting Preparation and Documentation		192	24		4 meetings x 48 hrs/meeting; Plus B&W 24 hours
Dry Run Meetings (4)		48			4 meetings x 3 HDR staff x 4 hrs
Meetings (4)		96	24		4 meetings x 4 HDR staff x 1 B&W staff x 6 hrs (PM, PE, Traffic, ENV, Drainage)
12.6	Community Engagement - Public Meetings			312	
Meeting Preparation and Documentation		160			2 meetings x 80hrs/meeting
Dry Run Meetings (2)		24			2 meetings x 3 HDR staff x 4 hrs
Meetings (2)		96	32		2 meetings x 6 HDR staff; 2 B&W staff x 8 hrs (PM, PE, ENV, Drainage, Traffic, PI, ROW, Principal)
12.7	Digital Materials			396	
On-Demand Online Meeting Preparation (1)		120			
1 - Existing Conditions Video (2 min)		32	80		
1 - Alternatives Video (2 min)		40	80		
Education PEL Videos (1)		12	32		
12.8	Project Materials Development			336	
Project Branding		80			
Project Fact Sheet		40			
Display Boards (18)		216			12hrs x 18
Task 13	Agency Coordination	442	108	550	
13.1	Regulatory/Resource Agency Coordination	36	18	114	
LCSMC		18	6		Assume 1 meeting @ 3 HDR staff/1 B&W staff @ 6 hrs/meeting
USACE		18			Assume 1 meetings @ 3 HDR staff
Miscellaneous		18			1 additional meeting
13.2	Lead Agencies Coordination			312	
LCDOT		48	12		LCDOT - 4/year @ 2 HDR/meeting (assumed virtual) @ 4/hrs each; B&W 12 hours
IDOT BLRS		36	12		IDOT (PEL - 2) = 2 meetings @ 3 HDR/meeting @ 6 hrs each (assume to be mixture of in person/virtual); B&W 12 hrs
FHWA		72	24		FHWA (PEL - 4) = 4 meetings @ 3 HDR/meeting @ 6 hrs each (assume to be mixture of in person/virtual); B&W 24 hrs
LRFDP		24			LRFDP (PEL-2) = 2 meetings@ 2 HDR/meeting@6 hrs each
IDOT Coord for State Routes (D1)		72	12		Coordination for IL 120, IL 60, IL 134 = 4 hrs/month; B&W 12 hrs
13.3	External Agencies Coordination			124	
Village of Round Lake Beach		12	6		1 meeting w/ 2 HDR staff @ 6 hrs/meeting; 1 B&W Staff
Village of Round Lake		12	6		1 meeting w/ 2 HDR staff @ 6 hrs/meeting; 1 B&W staff
Village of Wauconda		12	6		1 meeting w/ 2 HDR staff @ 6 hrs/meeting; 1 B&W Staff
Freemont Township		12			1 meeting w/ 2 HDR staff @ 6 hrs/meeting

Fairfield Road - North of IL 134 to North of Gilmer Road				9-Feb-23	
		Level of Effort - Hrs by Firm			Assumptions
		HDR	B&W	Total by Task	
Avon Township		12			1 meeting w/ 2 HDR staff @ 6 hrs/meeting
Metra		12			1 meeting w/ 2 HDR staff @ 6 hrs/meeting
ICC/Railroad Coordination		16			16 hrs
Miscellaneous		12	6		1 meeting w/ 2 HDR staff @ 6 hrs/meeting; 1 B&W staff
Task 14	Project Management/Administration	519	104	623	
14.1	Project Kickoff	24	5	29	1 LCDOT meeting (3 HDR) x 4 hrs; (1 B&W) x 4 hrs; 1 project team meeting (1 hr/person)
14.2	Project Management	468	72	540	6 hrs/wk x 52 wks x 1.5 years (HDR); B&W 4 hrs per month
14.3	Administration	27	27	54	1.5 hrs/month for 18 months
Task 15	QA/QC	301	88	389	
15.1	Quality Plan Development	16	8	24	
15.2	Senior Review Meetings	24		24	6 Review meetings (one a quarter) x 2 staff x 2 hours
15.3	Quality Reviews	249	80	329	3% of (Tasks 4-11); B&W 80 hrs
15.4	Document Management System Development	12		12	
Total by Firm		12,436	4,352	16,788	



Local Public Agency Lake County	County Lake County	Section Number 22-00999-85-ES
Prime Consultant (Firm) Name HDR Engineering, Inc.	Prepared By Aniko Shuey	Date 2/9/2023
Consultant / Subconsultant Name 	Job Number 	

Note: This is name of the consultant the CECS is being completed for. This name appears at the top of each tab.

Remarks

--

PAYROLL ESCALATION TABLE

CONTRACT TERM	18	MONTHS	OVERHEAD RATE	155.01%
START DATE	4/1/2023		COMPLEXITY FACTOR	
RAISE DATE	1/1/2024		% OF RAISE	2.00%
END DATE	9/30/2024			

ESCALATION PER YEAR

Year	First Date	Last Date	Months	% of Contract
0	4/1/2023	1/1/2024	9	50.00%
1	1/2/2024	10/1/2024	9	51.00%

Local Public Agency	County	Section Number
Lake County	Lake County	22-00999-85-ES
Consultant / Subconsultant Name		Job Number

PAYROLL RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET FIXED RAISE

MAXIMUM PAYROLL RATE	78.00
ESCALATION FACTOR	1.00%

CLASSIFICATION	IDOT PAYROLL RATES ON FILE	CALCULATED RATE
Principal	\$78.00	\$78.00
Project Manager IV	\$78.00	\$78.00
Senior Civil Engineer IV	\$78.00	\$78.00
Senior Civil Engineer III	\$76.03	\$76.79
Senior Civil Engineer II	\$66.93	\$67.60
Senior Civil Engineer I	\$60.44	\$61.04
Civil Engineer III	\$52.50	\$53.03
Civil Engineer II	\$44.30	\$44.74
Civil Engineer I	\$34.26	\$34.60
Senior Transportation Planner	\$78.00	\$78.00
Transportation Planner III	\$54.60	\$55.15
Senior Environmental Scientist	\$60.92	\$61.53
Environmental Scientist III	\$41.81	\$42.23
Environmental Scientist I	\$28.56	\$28.85
Structural Engineer I	\$38.16	\$38.54
Structural Engineer II	\$42.09	\$42.51
Structural Engineer III	\$56.18	\$56.74
Senior Structural Engineer II	\$76.47	\$77.23
Senior Structural Engineer IV	\$78.00	\$78.00
Senior Communications Coordinator	\$60.59	\$61.20
Senior Graphic Designer	\$39.47	\$39.86
Communications Coordinator II	\$42.30	\$42.72
Realty Specialist III	\$56.23	\$56.79
Clerical IV	\$45.03	\$45.48
Clerical III	\$35.59	\$35.95

Local Public Agency

Lake County

County

Lake County

Section Number

22-00999-85-ES

Consultant / Subconsultant Name

Job Number

DIRECT COSTS WORKSHEET

List ALL direct costs required for this project. Those not listed on the form will not be eligible for reimbursement by the LPA on this project.

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

ITEM	ALLOWABLE	QUANTITY	CONTRACT RATE	TOTAL
Lodging (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual Cost (Up to state rate maximum)			\$0.00
Lodging Taxes and Fees (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual Cost			\$0.00
Air Fare	Coach rate, actual cost, requires minimum two weeks' notice, with prior IDOT approval			\$0.00
Vehicle Mileage (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum	10350	\$0.66	\$6,779.25
Vehicle Owned or Leased	\$32.50/half day (4 hours or less) or \$65/full day			\$0.00
Vehicle Rental	Actual Cost (Up to \$55/day)			\$0.00
Tolls	Actual Cost	258	\$1.50	\$387.00
Parking	Actual Cost			\$0.00
Overtime	Premium portion (Submit supporting documentation)			\$0.00
Shift Differential	Actual Cost (Based on firm's policy)			\$0.00
Overnight Delivery/Postage/Courier Service	Actual Cost (Submit supporting documentation)	15	\$25.00	\$375.00
Copies of Deliverables/Mylars (In-house)	Actual Cost (Submit supporting documentation)			\$0.00
Copies of Deliverables/Mylars (Outside)	Actual Cost (Submit supporting documentation)			\$0.00
Project Specific Insurance	Actual Cost			\$0.00
Monuments (Permanent)	Actual Cost			\$0.00
Photo Processing	Actual Cost			\$0.00
2-Way Radio (Survey or Phase III Only)	Actual Cost			\$0.00
Telephone Usage (Traffic System Monitoring Only)	Actual Cost			\$0.00
CADD	Actual Cost (Max \$15/hour)			\$0.00
Web Site	Actual Cost (Submit supporting documentation)	1	\$250.00	\$250.00
Advertisements	Actual Cost (Submit supporting documentation)			\$0.00
Public Meeting Facility Rental	Actual Cost (Submit supporting documentation)	2	\$2,250.00	\$4,500.00
Public Meeting Exhibits/Renderings & Equipment	Actual Cost (Submit supporting documentation)	2	\$4,735.00	\$9,470.00
Recording Fees	Actual Cost			\$0.00
Transcriptions (specific to project)	Actual Cost			\$0.00
Courthouse Fees	Actual Cost			\$0.00
Storm Sewer Cleaning and Televising	Actual Cost (Requires 2-3 quotes with IDOT approval)			\$0.00
Traffic Control and Protection	Actual Cost (Requires 2-3 quotes with IDOT approval)			\$0.00
Aerial Photography and Mapping	Actual Cost (Requires 2-3 quotes with IDOT approval)	17	\$75.00	\$1,275.00
Utility Exploratory Trenching	Actual Cost (Requires 2-3 quotes with IDOT approval)			\$0.00
Testing of Soil Samples	Actual Cost			\$0.00
Lab Services	Actual Cost (Provide breakdown of each cost)			\$0.00
Equipment and/or Specialized Equipment Rental	Actual Cost (Requires 2-3 quotes with IDOT approval)			\$0.00
Printing BW 8.5 x11	Actual Cost	4000	\$0.05	\$180.00
Printing BW 11x17	Actual Cost	2400	\$0.10	\$240.00
Streetlight Traffic Information	Actual Cost	1	\$15,000.00	\$15,000.00
PSG and SIG Meeting Refreshments	Actual Cost	6	\$100.00	\$600.00
TOTAL DIRECT COSTS:				\$39,056.25

Lake County

Lake County

22-00999-85-ES

--

--

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

OVERHEAD RATE	155.01%
---------------	---------

COMPLEXITY FACTOR 0

TASK	DIRECT COSTS (not included in row totals)	STAFF HOURS	PAYROLL	OVERHEAD & FRINGE BENEFITS	FIXED FEE	SERVICES BY OTHERS	TOTAL	% OF GRAND TOTAL
01.0 Data Collection	1,843	582	27,945	43,318	9,222	49,731	130,216	5.11%
02.0 Mosaics		8	556	862	184	17,324	18,926	0.74%
03.0 Surveys		40	2,321	3,597	766	310,111	316,795	12.43%
04.0 Environmental	147	268	13,133	20,357	4,334		37,824	1.48%
05.0 Prepare Planning & Environment	110	508	25,998	40,300	8,579		74,877	2.94%
06.0 Drainage Analysis	20	950	44,510	68,995	14,688	125,576	253,769	9.95%
07.0 Alternate Geometric Studies	200	3354	152,168	235,875	50,215	23,429	461,687	18.11%
08.0 Crash Analysis	90	456	21,880	33,916	7,220		63,016	2.47%
09.0 Transportation Management Plan		40	2,221	3,443	733	698	7,095	0.28%
10.0 Traffic Operational Analysis	15,000	2120	102,172	158,376	33,717	13,163	307,428	12.06%
11.0 Concept Structural Design		1052	59,138	91,669	19,515		170,322	6.68%
12.0 Public Involvement	17,489	1796	101,890	157,940	33,624	41,348	334,802	13.13%
13.0 Agency Coordination	3,783	442	32,183	49,887	10,620	17,028	109,718	4.30%
14.0 Project Management		519	35,968	55,754	11,869	19,153	122,744	4.81%
15.0 QA/QC	375	301	21,663	33,579	7,149	17,907	80,298	3.15%
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
Subconsultant DL							\$20,653.60	0.81%
Direct Costs Total ==>	\$39,056.25						\$39,056.25	1.53%
TOTALS		12436	643,746	997,868	212,435	635,468	2,549,227	98.47%

BLR 05514 (Rev. 11/04/22)

COST EST

Local Public Agency

Lake County

County

Lake County

Section Number

22-00999-85-ES

Consultant / Subconsultant Name

Job Number

AVERAGE HOURLY PROJECT RATES
EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

SHEET 1 OF 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJ. RATES			01.0 Data Collection			02.0 Mosaics			03.0 Surveys			04.0 Environmental			Environmental Linkage (PEL)		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	78.00	26.0	0.21%	0.16															
Project Manager IV	78.00	796.0	6.40%	4.99	8	1.37%	1.07				2	5.00%	3.90				8	1.57%	1.23
Senior Civil Engineer IV	78.00	827.0	6.65%	5.19	20	3.44%	2.68	4	50.00%	39.00	6	15.00%	11.70				8	1.57%	1.23
Senior Civil Engineer III	76.79	336.0	2.70%	2.07	12	2.06%	1.58										8	1.57%	1.21
Senior Civil Engineer II	67.60	40.0	0.32%	0.22	40	6.87%	4.65												
Senior Civil Engineer I	61.04	196.0	1.58%	0.96	60	10.31%	6.29	4	50.00%	30.52							16	3.15%	1.92
Civil Engineer III	53.03	1,990.0	16.00%	8.49	80	13.75%	7.29				32	80.00%	42.42				268	52.76%	27.97
Civil Engineer II	44.74	3,881.0	31.21%	13.96	72	12.37%	5.54										200	39.37%	17.62
Civil Engineer I	34.60	1,581.0	12.71%	4.40	80	13.75%	4.76												
Senior Transportation Planner	78.00	200.0	1.61%	1.25										40	14.93%	11.64			
Transportation Planner III	55.15	80.0	0.64%	0.35										80	29.85%	16.46			
Senior Environmental Scientist	61.53	8.0	0.06%	0.04										8	2.99%	1.84			
Environmental Scientist III	42.23	120.0	0.96%	0.41	40	6.87%	2.90							80	29.85%	12.61			
Environmental Scientist I	28.85	60.0	0.48%	0.14										60	22.39%	6.46			
Structural Engineer I	38.54	370.0	2.98%	1.15	170	29.21%	11.26												
Structural Engineer II	42.51	100.0	0.80%	0.34															
Structural Engineer III	56.74	532.0	4.28%	2.43															
Senior Structural Engineer II	77.23	220.0	1.77%	1.37															
Senior Structural Engineer IV	78.00	16.0	0.13%	0.10															
Senior Communications Coordinator	61.20	120.0	0.96%	0.59															
Senior Graphic Designer	39.86	300.0	2.41%	0.96															
Communications Coordinator II	42.72	484.0	3.89%	1.66															
Realty Specialist III	56.79	32.0	0.26%	0.15															
Clerical IV	45.48	41.0	0.33%	0.15															
Clerical III	35.95	80.0	0.64%	0.23															
		0.0																	
		0.0																	
TOTALS		12436.0	100%	\$51.76	582.0	100.00%	\$48.02	8.0	100%	\$69.52	40.0	100%	\$58.02	268.0	100%	\$49.00	508.0	100%	\$51.18

Lake County

--

Lake County

22-00999-85-ES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

Traffic Operational	11 A Concept Str
---------------------	------------------

Local Public Agency

Lake County

County

Lake County

Section Number

22-00999-85-ES

Consultant / Subconsultant Name

Job Number

AVERAGE HOURLY PROJECT RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

SHEET 3 **OF** 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	12.0 Public Involvement			13.0 Agency Coordination			14.0 Project Management			15.0 QA/QC								
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	78.00							18	3.47%	2.71	8	2.66%	2.07						
Project Manager IV	78.00	380	21.16%	16.50	120	27.15%	21.18	178	34.30%	26.75									
Senior Civil Engineer IV	78.00	120	6.68%	5.21	100	22.62%	17.65	182	35.07%	27.35	103	34.22%	26.69						
Senior Civil Engineer III	76.79				120	27.15%	20.85				110	36.54%	28.06						
Senior Civil Engineer II	67.60																		
Senior Civil Engineer I	61.04																		
Civil Engineer III	53.03	120	6.68%	3.54	86	19.46%	10.32	60	11.56%	6.13									
Civil Engineer II	44.74	120	6.68%	2.99															
Civil Engineer I	34.60																		
Senior Transportation Planner	78.00	120	6.68%	5.21							40	13.29%	10.37						
Transportation Planner III	55.15																		
Senior Environmental Scientist	61.53																		
Environmental Scientist III	42.23																		
Environmental Scientist I	28.85																		
Structural Engineer I	38.54																		
Structural Engineer II	42.51																		
Structural Engineer III	56.74																		
Senior Structural Engineer II	77.23																		
Senior Structural Engineer IV	78.00				16	3.62%	2.82												
Senior Communications Coordinator	61.20	120	6.68%	4.09															
Senior Graphic Designer	39.86	300	16.70%	6.66															
Communications Coordinator II	42.72	484	26.95%	11.51															
Realty Specialist III	56.79	32	1.78%	1.01															
Clerical IV	45.48							41	7.90%	3.59									
Clerical III	35.95							40	7.71%	2.77	40	13.29%	4.78						
TOTALS		1796.0	100%	\$56.73	442.0	100%	\$72.81	519.0	100%	\$69.30	301.0	100%	\$71.97	0.0	0%	\$0.00	0.0	0%	\$0.00



Local Public Agency	County	Section Number
Lake County Division of Transportation	Lake	
Prime Consultant (Firm) Name	Prepared By	Date
HDR	Dan Schug	2/9/2023
Consultant / Subconsultant Name	Job Number	
Baxter & Woodman		

Note: This is name of the consultant the CECS is being completed for. This name appears at the top of each tab.

Remarks

--

PAYROLL ESCALATION TABLE

CONTRACT TERM	18	MONTHS	OVERHEAD RATE	154.70%
START DATE	4/1/2023		COMPLEXITY FACTOR	
RAISE DATE	1/1/2024		% OF RAISE	2.00%
END DATE	9/30/2024			

ESCALATION PER YEAR

Year	First Date	Last Date	Months	% of Contract
0	4/1/2023	1/1/2024	9	50.00%
1	1/2/2024	10/1/2024	9	51.00%

Local Public Agency	County	Section Number
Lake County Division of Transportation	Lake	
Consultant / Subconsultant Name	Job Number	
Baxter & Woodman		

PAYROLL RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET FIXED RAISE

MAXIMUM PAYROLL RATE	78.00
ESCALATION FACTOR	1.00%

CLASSIFICATION	IDOT PAYROLL RATES ON FILE	CALCULATED RATE
Executive Vice President	\$78.00	\$78.00
Vice President	\$76.25	\$77.01
Engineer VII	\$68.68	\$69.37
Engineer VI	\$68.56	\$69.25
Engineer V	\$61.11	\$61.72
Engineer IV	\$51.45	\$51.96
Engineer III	\$42.89	\$43.32
Engineer II	\$37.57	\$37.95
Engineer I	\$32.25	\$32.57
Environ. Scientist V	\$57.88	\$58.46
Environ. Scientist II	\$36.75	\$37.12
Natural Resources Mngr.	\$52.00	\$52.52
Engineer Tech V	\$54.06	\$54.60
Engineer Tech IV	\$47.25	\$47.72
Engineer Tech III	\$38.25	\$38.63
Engineer Tech II	\$29.00	\$29.29
Engineer Tech I	\$25.15	\$25.40
Spatial Tech. Manager	\$62.00	\$62.62
Spatial Tech. Prof. III	\$45.38	\$45.83
Spatial Tech. Prof. II	\$34.50	\$34.85
Survey Manager	\$48.00	\$48.48
Surveyor, Project	\$38.00	\$38.38
Survey Tech.	\$27.00	\$27.27
CADD Technician III	\$44.75	\$45.20
Marketing Prof. IV	\$43.50	\$43.94
Marketing Prof. III	\$36.50	\$36.87
Admin. Support IV	\$40.75	\$41.16

Local Public Agency

Lake County Division of Transportation

County

Lake

Section Number**Consultant / Subconsultant Name**

Baxter & Woodman

Job Number**DIRECT COSTS WORKSHEET**

List ALL direct costs required for this project. Those not listed on the form will not be eligible for reimbursement by the LPA on this project.

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

ITEM	ALLOWABLE	QUANTITY	CONTRACT RATE	TOTAL
Lodging (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual Cost (Up to state rate maximum)			\$0.00
Lodging Taxes and Fees (per GOVERNOR'S TRAVEL CONTROL BOARD)	Actual Cost			\$0.00
Air Fare	Coach rate, actual cost, requires minimum two weeks' notice, with prior IDOT approval			\$0.00
Vehicle Mileage (per GOVERNOR'S TRAVEL CONTROL BOARD)	Up to state rate maximum	3026	\$0.66	\$1,982.03
Vehicle Owned or Leased	\$32.50/half day (4 hours or less) or \$65/full day	88	\$65.00	\$5,720.00
Vehicle Rental	Actual Cost (Up to \$55/day)			\$0.00
Tolls	Actual Cost			\$0.00
Parking	Actual Cost			\$0.00
Overtime	Premium portion (Submit supporting documentation)			\$0.00
Shift Differential	Actual Cost (Based on firm's policy)			\$0.00
Overnight Delivery/Postage/Courier Service	Actual Cost (Submit supporting documentation)			\$0.00
Copies of Deliverables/Mylars (In-house)	Actual Cost (Submit supporting documentation)			\$0.00
Copies of Deliverables/Mylars (Outside)	Actual Cost (Submit supporting documentation)			\$0.00
Project Specific Insurance	Actual Cost			\$0.00
Monuments (Permanent)	Actual Cost			\$0.00
Photo Processing	Actual Cost			\$0.00
2-Way Radio (Survey or Phase III Only)	Actual Cost			\$0.00
Telephone Usage (Traffic System Monitoring Only)	Actual Cost			\$0.00
CADD	Actual Cost (Max \$15/hour)			\$0.00
Web Site	Actual Cost (Submit supporting documentation)			\$0.00
Advertisements	Actual Cost (Submit supporting documentation)			\$0.00
Public Meeting Facility Rental	Actual Cost (Submit supporting documentation)			\$0.00
Public Meeting Exhibits/Renderings & Equipment	Actual Cost (Submit supporting documentation)			\$0.00
Recording Fees	Actual Cost			\$0.00
Transcriptions (specific to project)	Actual Cost			\$0.00
Courthouse Fees	Actual Cost			\$0.00
Storm Sewer Cleaning and Televising	Actual Cost (Requires 2-3 quotes with IDOT approval)			\$0.00
Traffic Control and Protection	Actual Cost (Requires 2-3 quotes with IDOT approval)			\$0.00
Aerial Photography and Mapping	Actual Cost (Requires 2-3 quotes with IDOT approval)			\$0.00
Utility Exploratory Trenching	Actual Cost (Requires 2-3 quotes with IDOT approval)			\$0.00
Testing of Soil Samples	Actual Cost			\$0.00
Lab Services	Actual Cost (Provide breakdown of each cost)			\$0.00
Equipment and/or Specialized Equipment Rental	Actual Cost (Requires 2-3 quotes with IDOT approval)			\$0.00
Miovision Traffic Counts	Actual cost	28	\$528.00	\$14,784.00
Railroad Flaggers	Actual cost	1	\$1,200.00	\$1,200.00
Drone LIDAR	\$250/day	67	\$250.00	\$16,750.00
FEMA Floodmap data	Actual cost	1	\$830.00	\$830.00
TOTAL DIRECT COSTS:				\$41,266.03

Local Public Agency

Lake County Division of Transportation

County

Lake

Section Number

Consultant / Subconsultant Name

Baxter & Woodman

Job Number

COST ESTIMATE WORKSHEET

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

OVERHEAD RATE 154.70%

COMPLEXITY FACTOR 0

TASK	DIRECT COSTS (not included in row totals)	STAFF HOURS	PAYROLL	OVERHEAD & FRINGE BENEFITS	FIXED FEE	SERVICES BY OTHERS	TOTAL	% OF GRAND TOTAL
Task 1 Data Collection	18,398	258	10,891	16,848	3,594		31,333	4.93%
Task 2 Mosaics	500	120	5,848	9,046	1,930		16,824	2.65%
Task 3 Surveys	21,970	2208	100,153	154,937	33,051		288,141	45.34%
Task 6 Drainage Analysis		920	43,648	67,524	14,404		125,576	19.76%
Task 7 Alt Geometric Studies		146	8,144	12,598	2,687		23,429	3.69%
Task 9 TMP		4	243	375	80		698	0.11%
Task 10 Traffic Ops Analysis		96	4,575	7,078	1,510		13,163	2.07%
Task 12 Public Involvement	199	300	14,303	22,126	4,720		41,149	6.48%
Task 13 Agency Coordination	199	108	5,850	9,049	1,930		16,829	2.65%
Task 14 Project Management		104	6,657	10,299	2,197		19,153	3.01%
Task 15 QA/QC		88	6,224	9,629	2,054		17,907	2.82%
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
Subconsultant DL							\$0.00	
Direct Costs Total ==>	\$41,266.03						\$41,266.03	6.49%
TOTALS		4352	206,536	319,509	68,157	-	635,468	93.51%

526,045

BLR 05514 (Rev. 11/04/22)

COST EST

Local Public Agency

Lake County Division of Transportation

Consultant / Subconsultant Name

Baxter & Woodman

County

Lake

Section Number

Job Number

AVERAGE HOURLY PROJECT RATES EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

SHEET 1 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJ. RATES			Task 1 Data Collection			Task 2 Mosaics			Task 3 Surveys			Task 6 Drainage Analysis			Task 7 Alt Geometric Studies		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Executive Vice President	78.00	0.0																	
Vice President	77.01	16.0	0.37%	0.28															
Engineer VII	69.37	266.0	6.11%	4.24	4	1.55%	1.08				6	0.27%	0.19	8	0.87%	0.60	46	31.51%	21.86
Engineer VI	69.25	44.0	1.01%	0.70	6	2.33%	1.61												
Engineer V	61.72	192.0	4.41%	2.72	6	2.33%	1.44							144	15.65%	9.66			
Engineer IV	51.96	560.0	12.87%	6.69	46	17.83%	9.26				88	3.99%	2.07	296	32.17%	16.72	64	43.84%	22.78
Engineer III	43.32	116.0	2.67%	1.15															
Engineer II	37.95	542.0	12.45%	4.73	196	75.97%	28.83							346	37.61%	14.27			
Engineer I	32.57	0.0																	
Environ. Scientist V	58.46	0.0																	
Environ. Scientist II	37.12	0.0																	
Natural Resources Mngr.	52.52	0.0																	
Engineer Tech V	54.60	0.0																	
Engineer Tech IV	47.72	0.0																	
Engineer Tech III	38.63	0.0																	
Engineer Tech II	29.29	0.0																	
Engineer Tech I	25.40	0.0																	
Spatial Tech. Manager	62.62	12.0	0.28%	0.17				12	10.00%	6.26									
Spatial Tech. Prof. III	45.83	28.0	0.64%	0.29				28	23.33%	10.69									
Spatial Tech. Prof. II	34.85	0.0																	
Survey Manager	48.48	1,260.0	28.95%	14.04				60	50.00%	24.24	1200	54.35%	26.35						
Surveyor, Project	38.38	634.0	14.57%	5.59							634	28.71%	11.02						
Survey Tech.	27.27	0.0																	
CADD Technician III	45.20	506.0	11.63%	5.26				20	16.67%	7.53	280	12.68%	5.73	126	13.70%	6.19	36	24.66%	11.14
Marketing Prof. IV	43.94	64.0	1.47%	0.65															
Marketing Prof. III	36.87	112.0	2.57%	0.95															
Admin. Support IV	41.16	0.0																	
TOTALS		4352.0	100%	\$47.46	258.0	100.00%	\$42.21	120.0	100%	\$48.73	2208.0	100%	\$45.36	920.0	100%	\$47.44	146.0	100%	\$55.78

Local Public Agency

Lake County Division of Transportation

County

Lake

Section Number**Consultant / Subconsultant Name**

Baxter & Woodman

Job Number**AVERAGE HOURLY PROJECT RATES****EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET**SHEET 2 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Task 9 TMP			Task 10 Traffic Ops Analysis			Task 12 Public Involvement			Task 13 Agency Coordination			Task 14 Project Management			Task 15 QA/QC		
		Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg
Executive Vice President	78.00																		
Vice President	77.01																16	18.18%	14.00
Engineer VII	69.37	2	50.00%	34.68	16	16.67%	11.56	44	14.67%	10.17	14	12.96%	8.99	72	69.23%	48.02	54	61.36%	42.57
Engineer VI	69.25										20	18.52%	12.82				18	20.45%	14.16
Engineer V	61.72							42	14.00%	8.64									
Engineer IV	51.96	2	50.00%	25.98							32	29.63%	15.40	32	30.77%	15.99			
Engineer III	43.32				80	83.33%	36.10				36	33.33%	14.44						
Engineer II	37.95																		
Engineer I	32.57																		
Environ. Scientist V	58.46																		
Environ. Scientist II	37.12																		
Natural Resources Mngr.	52.52																		
Engineer Tech V	54.60																		
Engineer Tech IV	47.72																		
Engineer Tech III	38.63																		
Engineer Tech II	29.29																		
Engineer Tech I	25.40																		
Spatial Tech. Manager	62.62																		
Spatial Tech. Prof. III	45.83																		
Spatial Tech. Prof. II	34.85																		
Survey Manager	48.48																		
Surveyor, Project	38.38																		
Survey Tech.	27.27																		
CADD Technician III	45.20							38	12.67%	5.73	6	5.56%	2.51						
Marketing Prof. IV	43.94							64	21.33%	9.37									
Marketing Prof. III	36.87							112	37.33%	13.76									
Admin. Support IV	41.16																		
TOTALS		4.0	100%	\$60.67	96.0	100%	\$47.66	300.0	100%	\$47.68	108.0	100%	\$54.16	104.0	100%	\$64.01	88.0	100%	\$70.73