Illinois Department of Transportation

Local Public Agency Engineering Services Agreement

Using Federal Funds? ☐ Yes ☒ No

Using State Funds (Non-MFT)? ☐ Yes ☒ No

Agreement For: County MFT

Agreement Type: Original

LOCAL PUBLIC AGENCY

Local Public Agency	County	Section Number	Job Number
Lake	Lake	25-00999-17-WR	

Project Number	Contact Name	Phone Number	Email
	Michael Burke	(847) 377-7400	mjburke@lakecountyil.gov

SECTION PROVISIONS

Local Street/Road Name	Key Route	Length	Structure Number
Bonner Road (CH 61)	FAU 231	3.55 mi	

Location Termini: Darrell Road to Fairfield Road

Add Location | Remove Location

Project Description:

The scope of services consists of a Phase I study for the improvements along Bonner Road between Darrell Road and Fairfield Road. The goals of the project are to improve the condition of the roadway as well as increase safety and accessibility along the project corridor.

Engineering Funding ☐ MFT/TBP ☐ State ☒ Other: Local

Anticipated Construction Funding ☒ Federal ☐ MFT/TBP ☐ State ☐ Other

AGREEMENT FOR

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

CONSULTANT

Prime Consultant (Firm) Name	Contact Name	Phone Number	Email
Alfred Benesch & Company	Ryan Jacox	(312) 898-9212	rjacox@benesch.com

Address	City	State	Zip Code
35 W. Wacker Drive, Suite 3300	Chicago	IL	60601

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

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 Summary Sheet

☐ _____

☐ _____

☐ _____

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 original 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. By execution of this AGREEMENT the LPA and ENGINEER certify compliance with the Drug Free Workplace (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 and LPA 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
Alfred Benesch & Company	36-2407363	$2,839,928.00

Subconsultants	TIN/FEIN/SS Number	Agreement Amount
GZA Illinois, Inc.	36-3044842	$35,958.00
GSG Consultants, Inc.	36-3844476	$174,437.00
Bravo Company Engineering	82-2099477	$151,548.00
Mathewson Land Services, Inc.	85-4092178	$66,000.00
	Subconsultant Total	$427,943.00
	Prime Consultant Total	$2,839,928.00
	Total for all work	$3,267,871.00

AGREEMENT SIGNATURES

Executed by the LPA:

Attest: The Local Public Agency Type: County of Local Public Agency: Lake

By (Signature & Date) [redacted] 5/28/26

Local Public Agency: Lake

Local Public Agency Type: County Clerk

(SEAL)

By (Signature & Date) [redacted] 05/12/2026

Title: Chair, Lake County Board

RECOMMENDED FOR EXECUTION

[redacted] 05/12/2026

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

Executed by the ENGINEER:

Attest: Prime Consultant (Firm) Name: Alfred Benesch & Company

By (Signature & Date) [redacted] 3/27/2026

Title: Vice President

By (Signature & Date) [redacted] 3/27/2026

Title: Senior Vice President

For information about IDOTs collection and use of confidential information review the department's Identity Protection Policy.

Local Public Agency	Prime Consultant (Firm) Name	County	Section Number
Lake	Alfred Benesch & Company	Lake	25-00999-17-WR

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

See attached scope of services and level of effort

Local Public Agency	Prime Consultant (Firm) Name	County	Section Number
Lake	Alfred Benesch & Company	Lake	25-00999-17-WR

EXHIBIT B
PROJECT SCHEDULE

See attached schedule.

EXHIBIT A: SCOPE OF SERVICES

BONNER RD, DARRELL RD TO FAIRFIELD RD

PHASE I

BENESCH DESIGN TEAM

SCOPE OF SERVICES

PHASE I ENGINEERING FOR
BONNER RD, DARRELL RD TO FAIRFIELD RD

LCDOT SECTION NO. 25-00999-17-WR

INTRODUCTION

This scope of work is presented to the Lake County Division of Transportation for the preliminary engineering and environmental studies (Phase I Study), in accordance with the Illinois Department of Transportation's Bureau of Local Roads & Streets Polices & Procedures, for improvements along Bonner Road from Darrell Road to Fairfield Road within the Village of Wauconda and Wauconda Township in Lake County, IL. The Phase I Study includes approximately 3.6 miles of roadway and 24 intersections along Bonner Road (Darrell Road, Larkdale Row, N Rand Road (US 12), Dato Lane, Brown Street, Old Rand Road, Henri Drive, Synergy Drive, Karl Court, Garland Road, Barbara Lane, Washington Avenue, Madison Avenue, Monroe Avenue, Adams Avenue, Jackson Avenue, Van Buren Avenue, Lincoln Avenue, Water Stone Circle, Grand Boulevard, MacIntosh Drive, Wauconda Road, Baldwin Lane, and Fairfield Road). The project objectives are to improve the pavement condition, increase roadway safety, introduce multimodal facilities, and enhance traffic flow along the corridor for both existing and projected traffic. The work will include analyzing the appropriate number of travel lanes along the corridor and roadway cross section, intersection design studies at the major intersections, alternatives analysis, traffic and safety analysis, multimodal improvements, field survey, determination of right of way and easement acquisition needs, identification of detention requirements, floodplain determination, hydrology/hydraulic analysis, wetland delineation, soils investigation, aesthetics evaluation, public involvement, and environmental coordination and approvals. Coordination with LCSMC, utility companies, permitting agencies, and local communities is also anticipated. The project corridor will be broken into three separate sub-projects:

- Minimum Maintenance Resurfacing – Plans (Phase II contract plan preparation) will be prepared for a minimum maintenance resurfacing project for Bonner Road from US 12 (Rand Road) to Fairfield Road, including resurfacing of Fairfield Road from 600 feet north of Bonner Road to 1,200 feet south of Bonner Road.
- West Segment Improvement: A Phase I project for Bonner Road from Darrell Road to the Robert Crown School Entrance on Bonner Road will be prepared assuming local funding.
- East Segment Improvement: A Phase I project for Bonner Road from the Robert Crown School Entrance on Bonner Road to Fairfield Road will be prepared to maintain eligibility for federal funding.

The tasks necessary to complete this work are further detailed in the following scope of services.

PROJECT TEAM

Benesch will serve as the prime consultant for the project and will be responsible for completing the required services. Benesch will be responsible for the management of all sub-consultants. Benesch will be supported by the following sub-consultants:

Sub-Consultant Firm	Responsibility
GZA (formerly Huff & Huff, Inc.)	Environmental Services
GSG Consultants, Inc.	Geotechnical/Special Waste Services
Bravo Company Engineering	SUE / Utilities Survey
Mathewson Land Services, Inc.	Right-of-Way Services

PROJECT STUDY LIMITS

The project study corridor is approximately 3.55 miles long and extends along Bonner Road from the intersection of Darrell Road to the Intersection of Fairfield Road.

GENERAL SCOPE OF SERVICES

The scope of the Phase I preliminary engineering is divided into the following tasks which are described in further detail in the following pages:

1. Data Collection
2. Design Survey
3. Utility Coordination (Benesch and *Bravo Company Engineering*)
4. Minimum Maintenance Resurfacing Design Plans and Contract Documents
5. Right-Of-Way Services *(Mathewson Right of Way Co.)*
6. Traffic and Safety Analysis
7. Alternative Analysis
8. Geometric Design
9. Environmental Studies (Benesch, *GZA/Huff & Huff, Inc.; GSG Consultants, Inc.)*
10. Drainage Studies
11. Geotechnical Services *(GSG Consultants, Inc.)*
12. Public Involvement
13. Project Development Report
14. Agency Coordination and Meetings
15. Project Management and Administration and Project Documentation
16. Quality Assurance / Quality Control (QA/QC)

DETAILED WORK TASK DESCRIPTIONS

This section provides a detailed description for each of the major work tasks identified above. The tasks described below may take place at different times throughout the project or occur in parallel throughout the project.

1. Data Collection

Benesch will gather, compile, organize and review the following information:

- As-built roadway and utility plans, as available from Lake County
- Previous inspection reports for roadway and drainage systems (if available)
- Digital aerial photography, parcel information and GIS layers (Lake County GIS)
- Future development plans and comprehensive plans
- Crash Reports – most recent 5 years (County Sheriff, Village of Wauconda, IDOT)
- Existing traffic or pedestrian counts applicable to the study
- Existing traffic signal timing for all signalized intersections along the corridor
- Existing ROW information, including known utility easements
- FEMA Floodplain and floodway mapping
- Existing conditions linework for minimum maintenance resurfacing plans (Ecopia)
- Drain tile mapping and field report

Benesch will perform a field review of the project site, roadways, drainage, utilities, and traffic patterns for the study area. These reviews will occur as necessary throughout the project to make recommendations in the completed Phase I documents. Any additional data obtained by sub-consultants will be reviewed by Benesch prior to being presented to the County.

Data Collection Deliverables:

- ✓ Existing data log documenting data obtained and source
- ✓ Existing conditions photos
- ✓ Existing conditions linework in dgn format (Ecopia)

2. Design Survey

The project will conduct a topographic survey utilizing a combination of traditional ground survey methods and aerial drone survey and will be completed by Benesch in accordance with the LCDOT Design Survey Procedures dated 02/22/2021. Topographic information will be gathered as needed to develop a suitable digital terrain model (DTM) for the project. Specific areas of survey are as follows and up to 25' outside of the existing ROW:

- Bonner Road - 18,810'
- Cross Streets
  - Darrell Road – 750' north and 750' south
  - Lakeside Row – 200' south
  - N Rand Road (US 12) – 750' north and 750' south
  - Dato Lane – 400' south
  - Brown Street – 200' south
  - Old Rand Road – 500' north and 500' south
  - Henri Drive – 200' north
  - Synergy Drive – 200' north
  - Karl Court – 200' north
  - Garland Road – 500' north and 500' south
  - Barbara Lane – 200' south

- Washington Avenue – 200' north and 200' south
- Madison Avenue – 200' south
- Monroe Avenue – 200' north and 200' south
- Adams Avenue – 200' south
- Jackson Avenue – 200' north and 200' south
- Van Buren Avenue – 200' south
- Lincoln Avenue – 200' south
- Water Stone Circle – 200' north
- Grand Boulevard – 200' south
- MacIntosh Drive – 200' north
- Wauconda Road – 200' south
- Baldwin Lane – 200' north
- Fairfield Road – 500' north and 500' south

The field data to be collected will include:

- Northing, Easting, Elevation data using GPS derived Illinois East State Plane coordinates, NAD 83, NAVD88, grid, survey foot.
- The general topography within survey limits will include an approximate 50' grid of ground and/or break line shots. Definable break lines, such as top of slopes, toe of slopes, edge of pavement, structures, etc. will be detailed.
- Visible utilities, junction boxes, and utility locate marks will be collected within the survey limits. Project area drainage structure inverts will be measured when access is possible. The survey will not make assumptions as to the location of utilities that are not visible or marked.
- Installation of horizontal and vertical control points located at a maximum of 1000' along the roadway and at least 200' past every leg of the project limits for the subject area. Traverses and level runs will be performed at the same intervals to confirm survey grade accuracy of control points.
- OpenRoads Designer (ORD) base file of topographic survey.
- Pick up survey and updated base files if design identifies additional areas that may be needed.

Additional survey scope items:

- Existing right-of-way establishment using record information and property corner searches within the project limits.

Survey Deliverables:

- ✓ Electronic Survey
- ✓ Electronic copies of Field Books
- ✓ Digital terrain models
- ✓ Digital Existing Right-of-Way File

3. Utility Coordination (*Bravo Company Engineering*)

Bravo Company will lead utility data collection, investigation, and coordination with the utility companies. Benesch will provide coordination support and generate a utility conflicts summary table as part of the development of the Project Development Report (PDR).

- Subsurface Utility Engineering (SUE) Quality Level B will be performed within the project limits.
  - Early Coordination and Data Collection
    i. Submit to JULIE a Design Stage/Planning Information Request to determine which utility companies are within the project limits and who should be contacted with future atlas request
    ii. Send letters to the utility companies within the project limits requesting copies of their utility atlases.
    iii. Develop a utility log to document all utility coordination efforts.
    iv. Develop a preliminary 2D utility base file using all atlases files received (Quality Level D). This preliminary base will be used as a guide during field investigations.
  - Field Survey
    i. A Site Investigation will be conducted to obtain electronic horizontal and vertical measurements of all existing utilities (Quality Level B) as well as photo documentation of above ground and aerial facilities. The SUE study will be performed in accordance with ASCE standard 38-22.
    ii. In-Person Project Walkthrough: A project walkthrough with both Benesch and Bravo staff will be performed with the draft SUE in-hand to verify field conditions and to identify items that may indicate the presence of an unlocated facility.
  - SUE Plan Sheets and Utility Model Development
    i. Import Quality Level B data to further refine 2D utility base file.
    ii. Use Quality Level B data to create a 3D utility model using Microstation's OpenRoads Designer Subsurface Utility tools.
    iii. Use 2D Utility Base file, additional base files provided by Benesch, and IDOT's standard border to develop SUE Investigation of Underground Utilities sheets. Sheets include color coded utility linework, utility owner callouts, and electronic depth labels at key crossing locations. Unique linestyles will be utilized to differentiate between SUE quality levels as appropriate.
    iv. Quality Level A ("QLA "), if necessary, involves the use of nondestructive digging equipment at discrete, critical points to determine the precise horizontal and vertical position of underground utilities, as well as the type, size, condition, material, and other characteristics. This activity is called "locating." It is the highest quality level presently available. This information, when combined with other surveyed and mapped information, allows the designer to infer plan and profile information, for use in making final design decisions. By knowing exactly where a utility is positioned in three dimensions, the designer can accurately determine the extent of a utility conflict, or can often make small adjustments in elevations or horizontal locations and avoid the need to relocate utilities. Additional information such as utility material, condition, size, soil contamination, and paving thickness also assists the designer and utility owner in their decisions. QLA information (in the form of test hole logs), when included in the project bid documents, may yield more favorable bids due to reduced contractor uncertainty about subsurface conditions.

- A list of potential data gaps will be developed after the initial SUE study findings have been developed and a meeting with County staff will be held to discuss these gaps and to determine if further investigation is required.
- Conflict Notification: Preliminary proposed design information (plan and profile sheets showing utilities) will be transmitted to the utility companies to identify specific conflicts. Benesch will share the SUE Level B with the utility companies. Bravo will assist in the utility company coordination to establish conceptual parameters for relocation.

Utility Coordination Deliverables:

- ✓ Existing 3D utility base CAD file (displayed on preliminary plan and profile)
- ✓ Documentation of utility coordination process
- ✓ SUE Study including 50-scale SUE plan sheets

4. Minimum Maintenance Resurfacing Design Plans and Contract Documents

Minimum maintenance resurfacing design plans and contract documents will be prepared for Bonner Road from US 12 (Rand Road) east to Fairfield Road and for Fairfield Road from approximately 500' north of Bonner Road to approximately 1000' south of Bonner Road. The proposed scope of work includes milling and resurfacing HMA roadways. Contract documents comprised of the Plans, Specifications, and Estimates will be prepared in accordance with the applicable guidelines from LCDOT and the Bureau of Local Roads and Streets Manual. Sheet creation will utilize the IDOT workspace. Specific plan sheets are detailed below:

Cover Sheet

- The standard Title Sheet will be utilized supplemented by LCDOT requirements.

General Notes, Index of Sheets, State Standards, and Project Commitments

- LCDOT's list of general notes will be utilized.
- Project specific notes will be added, as necessary.
- An index of sheets will be included.
- Project and utility points of contact if needed.
- A list of current LCDOT and IDOT standards pertinent to the subject project will be included.
- A bituminous mixture chart with QC/QA schedule for bituminous materials will be included

Summary of Quantities

- Hours for preparing the Summary of Quantity sheets will consist of formatting the summary of quantity tables and inputting the required information.
- Pay items shall be shown on the Summary of Quantity sheets along with columns denoting contingencies, specialty items, special provisions, schedule number and sheet (as necessary).
- The work effort to calculate the quantities will be included in the hours for the preparation of the respective disciplines on which the items appear.

Schedules of Quantities

- Pay items will be shown in a tabular format except for lump sum, contingency items, or other items selected by LCDOT.

- Schedules will be prepared for major roadway items which are repeated on multiple plan sheets and will be shown in a tabular format in the Schedule of Quantities.
- Hours for preparing Schedule of Quantities sheets consist of formatting the schedules and inputting the required information.
- Hours for calculating the quantities will be included in the hours for the preparation of the respective disciplines on which the items appear.

Typical Sections

- Existing and proposed Typical Sections will be shown on separate plan sheets.
- A legend will be provided on all sheets. Pay items will be called out as they appear on the Summary of Quantity sheets excluding the pay item number.
- An exact scale is not required for the typical sections. The typical sections will be proportioned in such a manner that all information will be adequately conveyed.
- Changes in any existing typical sections will be accounted for through the entire length of the proposed improvement and shall be depicted accordingly based on the various pavement structures.
- Proposed Typical Sections will cover the entire length of the proposed improvement and will be provided to show the following conditions: superelevation, changes to the pavement structure, changes to pavement width, number of lanes, cross section changes, critical points, and side slope variations.
- Pavement design will be completed using IDOT methodology. LCDOT will select pavement for final design.

Alignment, Ties and Benchmark

- The alignment and ties will consist of one sheet at 1" = 200'.
- Schematic drawings for the reference ties and benchmarks will be shown together on a separate sheet.
- Curve data and the survey marker schedule will be shown in a tabulated format together with the alignments.

Roadway Design

Existing Conditions/Removal Plans

- Benesch will create a removal plan base file defining the Bonner Road resurfacing limits.
- Benesch will use existing conditions linework developed by Ecopia using Nearmap technology to create the existing conditions base file. The linework will be converted to IDOT line styles and will include general Open Roads Designer setup.

Proposed Roadway Resurfacing Plans

- Benesch will create a proposed plan base file defining the Bonner Road resurfacing limits.
- Benesch will perform and compile quantity calculations.
- No clear zone and barrier warrant analyses, nor the guardrail length of need calculations is anticipated.

Pavement Marking

The design development for the pavement marking and signing consists of:

- Proposed pavement marking layout that conforms to LCDOT, IDOT District 1 standards and the MUTCD.
- Pavement marking quantities and specifications are included.

Roadway Plans

The plan development for the removal, proposed and pavement marking includes the following:

- Sheet production will include a double window plan sheet with a Scale 1" = 40' for each window.
- Roadway removal items will be shown on the upper Removal pane.
    - A legend will be shown on the upper Removal pane sheets.
- Proposed resurfacing improvements and proposed pavement marking will be shown on the lower pane:
    - Existing and proposed right-of-way will be shown.
    - Utility lines will not be shown.
    - Topography will be shown as toned down (grayed out).
    - A legend will be shown on the for resurfacing improvements.
    - Pavement marking shall be detailed and called out on the plans.
    - Proposed resurfacing area will be shaded.

<u>Maintenance of Traffic</u>

Benesch will be responsible for the preparation of the Maintenance of Traffic (MOT) sheets, details, quantity estimates and special provisions. The detailed plan preparation of the MOT Sheets is as follows:

- A separate sheet for staging notes, general notes and the legend will be included.
- One consolidated MOT staging plan set will be prepared.
- The plan sheets will show general traffic control signing.
- 1"=200' scale will be utilized on all plan sheets.
- Benesch will insert LCDOT and IDOT special provisions pertaining to MOT and author any additional required special provisions.
- LCDOT and District 1 standard details pertaining to MOT will be obtained and incorporated into the plan set.
- No detour is anticipated for the resurfacing limits.

The MOT Plan Sheets will be prepared as follows:

- MAINTENANCE OF TRAFFIC NOTES AND SEQUENCE OF CONSTRUCTION
- MOT PLAN SHEETS
- MOT DETAILS

<u>Design Details</u>

- The applicable LCDOT Standard Details, IDOT Highway Standard Details, and IDOT District 1 Standard Details will be included in the plan set.

<u>Base Sheet Cutting</u>

- Sheets will be cut for Roadway Plans to include removals, proposed resurfacing, and pavement marking, Maintenance of Traffic plans and details.
- Sheet production will include a separate plan sheet with a single or double-window view to the scale as specified within scope.

Estimate of Cost and Estimate of Time

BDE 220A will be utilized to prepare the estimate of construction time required.
BDE 213 will be utilized to prepare the estimate of cost.

Benesch will prepare the estimate of time and estimate of cost at every submittal stage (2 submittals).

Specifications

Benesch will prepare the Special Provisions following the requirements of Lake County DOT and IDOT District 1 Bureau of Local Roads. This task also includes the coordination with LCDOT for any special items not covered by the standard specifications and may require a proprietary letter from the Local Agency. Non-standard LCDOT special provisions will be provided within the contract documents and will correspond to the LCDOT SP book requirements noted on page 50 of the LCDOT plan preparation guidelines.

Benesch will prepare the Specifications at every submittal stage (2 submittals).

Milestone Submittal Packaging

Pre-final (90%) and final (100%) submittals will be developed as per LCDOT and IDOT BLRS Requirements as follows:

- Prepare pre-final (90%) engineering plans including but not limited to plan and profile sheets, index of specifications, quantities and cost estimates, detail sheets (erosion control, maintenance of traffic, etc.), and general notes and highway standards
- Prepare final (100%) contract plans and documents which resolve all previous comments on the 90% submittal.

Additional Assumptions

- Traffic signal plans are not included.
- No curb and gutter work is included.

5. Right-Of-Way Services (*Mathewson Land Services, Inc.*)

Ownership and Research Analysis
MLS shall provide research and advice on the ownership of properties potentially impacted by the proposed improvements. The research may consist of obtaining title commitments or copies of recorded documents. The research may also include identifying any potential acquisition complications apparent in the public record.

Valuation:
MLS shall provide opinions on probable costs associated with various design alternatives. The opinions may be based in whole or part on cost analysis prepared by licensed appraisers. MLS shall identify valuation challenges and potential cost savings arising from design options.

Other Services:
MLS agrees to provide additional services as the parties may agree are appropriate in furtherance of the project.

6. Traffic and Safety Analysis

Traffic operations and crash analyses will be completed for the project in accordance with typical IDOT BLRS Phase I requirements and LCDOT standards.

Corridor Traffic Operations Analysis

Traffic Counts

Intersection turning movement traffic counts (TMC) will be obtained at six intersections within the corridor study limits and ADT volumes will be calculated for each leg of the intersection based on turning movement counts:

- Darrell Road and Bonner Road
- Rand Road (US 12) and Bonner Road
- Dato Lane and Bonner Road
- Old Rand Road and Bonner Road
- Garland Road and Bonner Road
- Wauconda Road
- Fairfield Road and Bonner Road

One set of weekday TMC counts will be performed. Weekday Counts will be obtained for a 72-hour period spanning Tuesday through Thursday during a non-holiday week. Heavy trucks, light trucks, passenger vehicles, bicycles, and pedestrians will be collected. Once obtained, raw traffic data will be shared with LCDOT Traffic.

Traffic Volume Development

Benesch will gather information on the existing land use, anticipated population growth, and any known proposed development plans along the corridor to develop traffic volumes for 2050 volume scenario. Benesch will request projected 2050 traffic volumes from CMAP.

Traffic Operations Analysis

Traffic volumes will be analyzed with Synchro and/or Sidra capacity software at the following key intersections:

- Darrell Road and Bonner Road
- Rand Road (US 12) and Bonner Road
- Old Rand Road and Bonner Road
- Garland Road and Bonner Road
- Wauconda Road
- Fairfield Road and Bonner Road

Both the AM and PM peak hours will be analyzed. Synchro will be utilized to perform in-depth analysis of the study intersections for the existing conditions model, 2050 no-build model, and any proposed models involving traffic signal alternatives. Sidra and/or Vissim will be utilized to analyze any roundabout alternatives. Once the preferred alternative is established, the corresponding traffic model for that alternative will be revisited to finalize and fine-tune. Once a preferred alternative is selected, a Vissim model will be created to ensure corridor traffic flow through different intersection types and for visualization purposes Below is a list of the anticipated traffic capacity analysis models.

Intersection Traffic Capacity Analysis Models

1. Darrell Road and Bonner Road

a. Existing Conditions/No Build (Synchro)
    i. Existing Traffic – AM & PM Peak
    ii. 2050 Traffic – AM & PM Peak
b. Alternative Analysis (3 alternatives anticipated)
    i. Signalized Alternative 1 (Synchro)
        1. 2050 Traffic – AM & PM Peak
    ii. Roundabout Alternative 1 (Sidra/Vissim)
        1. 2050 Traffic – AM & PM Peak
    iii. Roundabout Alternative 2 (Sidra/Vissim)
        1. 2050 Traffic – AM & PM Peak

2. Rand Road (US 12) and Bonner Road
    a. Existing Conditions/No build (Synchro)
        i. Existing Traffic – AM & PM Peak
        ii. 2050 Traffic – AM & PM Peak
    b. Alternative Analysis (5 alternatives anticipated)
        i. Signalized Alternative 1 (Synchro)
            1. 2050 Traffic – AM & PM Peak
        ii. Signalized Alternative 2 (Synchro)
            1. 2050 Traffic – AM & PM Peak
        iii. Signalized Alternative 3 (Synchro)
            1. 2050 Traffic – AM & PM Peak
        iv. Signalized Alternative 4 (Relocation of Dato Lane) (Synchro)
            1. 2050 Traffic – AM & PM Peak
        v. Roundabout Alternative 1 (Sidra/Vissim)
            1. 2050 Traffic – AM & PM Peak
3. Old Rand Road and Bonner Road
    a. Existing Conditions/No build (Synchro)
        i. Existing Traffic – AM & PM Peak
        ii. 2050 Traffic – AM & PM Peak
    b. Alternative Analysis (4 alternatives anticipated)
        i. Signalized Alternative 1 (Synchro)
            1. 2050 Traffic – AM & PM Peak
        ii. Signalized Alternative 2 (Synchro)
            1. 2050 Traffic – AM & PM Peak
        iii. Roundabout Alternative 1 (Sidra/Vissim)
            1. 2050 Traffic – AM & PM Peak
        iv. Roundabout Alternative 2 (Sidra/Vissim)
            1. 2050 Traffic – AM & PM Peak
4. Garland Road and Bonner Road
    a. Existing Conditions/No build (Synchro)
        i. Existing Traffic – AM & PM Peak
        ii. 2050 Traffic – AM & PM Peak
    b. Alternative Analysis (3 alternatives anticipated)
        i. Signalized Alternative 1 (Synchro)
            1. 2050 Traffic – AM & PM Peak
        ii. Roundabout Alternative 1 (Sidra/Vissim)
            1. 2050 Traffic – AM & PM Peak
        iii. Roundabout Alternative 2 (Sidra/Vissim)
            1. 2050 Traffic – AM & PM Peak

5. Wauconda Road and Bonner Road
    a. Existing Conditions/No build (Synchro)
        i. Existing Traffic – AM & PM Peak
        ii. 2050 Traffic – AM & PM Peak
    b. Alternative Analysis (1 alternative anticipated)
        i. Channelization Improvements (Synchro)
            1. 2050 Traffic – AM & PM Peak
6. Fairfield Road and Bonner Road (Synchro)
    a. Existing Conditions/No build (Synchro)
        i. Existing Traffic – AM & PM Peak
        ii. 2050 Traffic – AM & PM Peak
    b. Alternative Analysis (2 alternatives anticipated)
        i. Signalized Alternative 1 (Synchro)
            1. 2050 Traffic – AM & PM Peak
        ii. Roundabout Alternative 1 (Sidra/Vissim)
            1. 2050 Traffic – AM & PM Peak

Corridor Traffic Capacity Analysis Models

1. Bonner Road
    a. Preferred Alternative (Vissim)
        i. 2050 Traffic – PM Peak

Speed Study

Traffic speed data will be obtained for a 24-hour period on a typical weekday (Tuesday through Thursday) during a non-holiday week. The five data collection locations along the project corridor are as follows and may be adjusted if necessary to ensure suitable camera mounting locations are present:

- Bonner Road east of Darrell Road
- Bonner Road west of Robert Crown School
- Bonner Road between Synergy Drive and Karl Court
- Bonner Road between Madison Avenue and Monroe Avenue
- Bonner Road between MacIntosh Drive and Wauconda Road

The data will be reduced and analyzed to determine 50th and 85th percentile speeds and compared against the posted speeds in these locations. This process will follow the guidelines set forth in *IDOT Circular Letter 2025-09, Policy Related to Setting Speed Limits*. A writeup will be included in the Traffic and Safety Memorandum presenting the acquired data, the findings of the analysis, and any recommendations resulting from the data analysis.

Traffic Signal Warrant Analysis

Traffic Signal Warrant Analysis will be completed at the following intersections:

- Darrell Road and Bonner Road
- Rand Road (US 12) and Bonner Road
- Old Rand Road and Bonner Road
- Garland Road and Bonner Road
- Wauconda Road and Bonner Road
- Fairfield Road and Bonner Road

Crash Analysis
Benesch will review and summarize the most recent five years of crash data within the Corridor Improvement Limits. Crash trends will be identified and summarized and may include:

- Crash Severity (fatal, injury, or property damage only)
- Crash Type (Rear End, Head-on, Right Angle, Left Turn, Right Turn, Sideswipe, etc.)
- Pedestrian and Bicycle Involvement
- Light Conditions, Weather, Pavement Condition
- Contributing cause (careless driving, failure to yield right of way, traffic control noncompliance)

Safety analysis will be completed using Highway Safety Software to provide safety performance functions for the study intersections for both No Build conditions (existing and future). Predicted safety performance measures will be developed using Highway Safety Manual crash modification factors for the proposed alternatives for the future volume conditions.

A multimodal safety analysis will be conducted to focus on pedestrian and bicycle facility needs along the project corridor. This analysis will focus on pedestrian and bicycle exposure levels, potential facility types, and pedestrian grade separation warrants and feasibility.

Findings of all traffic and crash analyses will be summarized in a Traffic and Safety Memo and in appropriate sections of the PDR.

Traffic & Crash Analysis Deliverables:

- ✓ Traffic Counts
- ✓ CMAP Traffic Projections
- ✓ Speed Study Data
- ✓ Traffic and Safety Memorandum

7. Alternatives Analysis
The evaluation will be performed utilizing a Value Planning (VP) approach, which will include assessment of existing conditions, development of concept alternatives, and detailed alternatives evaluation.

Existing Conditions Assessment:
Benesch will evaluate existing conditions which will be used in combination with stakeholder input to identify project needs. Exhibits will be developed showing the following conditions:

- Vehicular traffic conditions (operations and crash history)
- Multimodal conditions and network connections
- Land Use conditions (existing use and planned developments)
- Environmental conditions and resources
- Infrastructure/asset conditions

Benesch will establish design criteria for the project based on IDOT and County standards and identify substandard conditions. A Purpose and Need statement will be drafted based on identified deficiencies.

Concept Alternatives:
Benesch will lead an initial VP Workshop (in-person) with Lake County to discuss the existing conditions, identify project stakeholders, constraints, and goals, and brainstorm design ideas for the corridor. Benesch will build on the initial ideas list to develop a preliminary list of Concept Alternatives as well as initial screening and evaluation criteria. The top performing alternatives will be selected for more rigorous analysis. Concept Alternatives will be presented on 1"=200' exhibits for the interchange and 1"=50' for the intersections. Alignments, lane designation and traffic will be included in each exhibit.

Concept Alternatives to be advanced and evaluation criteria will be presented to Lake County for concurrence prior to further development.

Detailed Alternatives:
The top performing Concept Alternatives and No Build will be further developed into localized Detailed Alternatives for evaluation and public presentation. Detailed Alternatives will include intersection alternatives and corridor alternatives. The following number of alternatives is assumed for this scope:

- Corridor alternatives
  - 3 lane section
  - 2 lane section
- Signalized intersection alternatives
  - 1 alternative at Darrell Road and Bonner Road
  - 4 alternatives at Rand Road (US 12) and Bonner Road
  - 2 alternatives at Old Rand Road and Bonner Road
  - 1 alternative at Garland Road and Bonner Road
  - 1 alternative at Fairfield Road and Bonner Road
- Unsignalized intersection alternatives
  - 1 alternative at Wauconda Road and Bonner Road
- Roundabout intersection alternatives
  - 2 alternatives at Darrell Road and Bonner Road
  - 1 alternative at Rand Road (US 12) and Bonner Road
  - 2 alternatives at Old Rand Road and Bonner Road
  - 2 alternatives at Garland Road and Bonner Road
  - 1 alternative at Fairfield Road and Bonner Road

Detailed Alternatives will be presented on 1"=200' exhibits for the corridor and 1"=50' for the intersections. In addition to the information called out in the concept alternative exhibits, callouts for radii, tangent lengths, skew angles, storage lengths, traffic signal timings and possible pedestrian crossings will be added. Standard pedestrian and bicycle facilities will be considered for all alternatives to provide network connectivity. Variations to pedestrian and bicycle facility types and widths will be evaluated during advancement of the preferred alternative only.

The Benesch team will perform traffic simulations to test alternative performance based on selected design criteria and other technical expectations. Alternative analysis will include concept level evaluation of drainage and detention requirements, right-of-way impacts, utility conflicts, construction phasing and MOT, and cost estimates. A Performance, Acceptance and

Cost Evaluation (PACE) matrix will be developed to score alternatives based on technical performance and stakeholder acceptance criteria.

A second VP Workshop will be held to present the alternatives analysis, draft PACE matrix, and determine or affirm the preferred alternative. Optimization of the preferred alternative will be performed to address comments and questions raised in the VP workshop. Findings of the Alternatives Analysis will be summarized in a Value Planning Summary Report.

Alternatives Analysis Deliverables:

- ✓ Existing Conditions Assessment Exhibits
- ✓ Design Criteria Matrix
- ✓ Purpose and Need Statement
- ✓ Concept Alternatives Technical Memorandum
- ✓ Value Planning Summary Report

8. Geometric Design

Once the preferred geometric alternative has been established, Benesch will prepare typical section exhibits, preliminary plan and profile sheets (20-scale) and document any design exceptions for submittal to the Lake County Division of Transportation. Cross section sheets will be produced at critical locations in accordance with IDOT BLRS and LCDOT standards. These items will be compiled into a preliminary geometrics package and submitted to the Lake County Division of Transportation for review, approval, and included in the Project Development Report (PDR). All deliverables are assumed to be submitted to LCDOT electronically.

OpenRoads Designer (ORD) and 3D Modeling

A 3D model will be created for the project covering the primary and major roadway improvements within the project limits using Bentley Open Roads Designer (ORD) software. The model will be based on the preferred alternative design elements established under the geometric design task and used to evaluate the accuracy of the roadway design elements, sidewalk and path features, side slope grading, ADA compatibility, right of way impacts, and interdisciplinary coordination. The model will be used to generate and sheet cross section sheets provided every 100' and driveway crossings for inclusion in the geometrics package according to IDOT design standards.

IDS Preparation

Intersection Design Studies will be prepared according to LCDOT requirements consistent with IDOT BLRS standards for the following intersections:

- Darrell Road and Bonner Road
- Rand Road (US 12) and Bonner Road
- Old Rand Road and Bonner Road
- Garland Road and Bonner Road
- Fairfield Road and Bonner Road

Maintenance of Traffic

Conceptual construction staging exhibits and typical sections will be developed to establish expected construction impacts to local businesses and impacted roadways. A queuing analysis will be performed using Synchro/SimTraffic to establish expected traffic impacts during construction, and a constructability review will be performed by Benesch field staff. This

information will be summarized in a technical memo and submitted to LCDOT for approval. Detailed traffic staging plans are not included and will be deferred to Phase II.

A Preliminary Transportation Management Plan (TMP) will be prepared per BDE guidelines for the preferred alternative for the intersection of Rand Road (US 12) and Bonner Road.

Geometric Design Deliverables:

- ✓ Plan and profile sheets
- ✓ Cross-section sheets
- ✓ Typical sections exhibit
- ✓ Intersection Design Study plans with AutoTurn exhibits and ADA details
- ✓ Design Exception Forms if necessary
- ✓ Construction Staging Memo
- ✓ TMP for Rand Road (US 12) and Bonner Road

9. Environmental Studies (GZA, *Inc.; GSG Consultants, Inc.*)

Environmental scope includes evaluations of the potential environmental impacts of the project coordinated locally through LCDOT. These areas include special waste, noise, biological/wetlands and other natural resources, endangered and threatened species, water quality and resources, floodplains, air quality, and cultural resources.

ESR Preparation

It is anticipated that this project will be processed as a Federally Approved Categorical Exclusion. An Environmental Survey Request Form (ESRF) will be submitted to obtain signoffs on biological, wetlands, cultural resources, and special waste (State ROW only) though IDOT. This work effort will consist of preparation of an aerial base photo with existing right-of-way and areas for screening (conservative estimate of future right-of-way/easements) identified. It will also include submittal of general ground level photos and individual photos of all structures over 50 years old. Benesch will prepare a photo log of structures/properties along the proposed project that are potentially significant from a historical standpoint. The ESR and support documents will be submitted electronically to LCDOT and IDOT for processing. This task will also include incidental coordination with IDOT related to the ESR submittal and review.

Preliminary Environmental Site Assessment (PESA) (GSG Consultants, Inc.)

The purpose of the PESA is to determine the location of potential sources of recognized environmental conditions within the local road portions of the project limit. IDOT will conduct a separate PESA for portions of the project area under their jurisdiction. GSG will conduct the PESA in accordance with IDOT requirements and will follow Chapter 27 "Environmental Surveys" of IDOTs Bureau of Design & Environment (BDE) manual procedures, and ISGS' publication "A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Projects". The scope of work will include:

- Regulatory Background Review – GSG will obtain and review a copy of the federal and state government records for all properties in accordance with the ASTM standards.
- Review Historical Aerial Photographs and/or Sanborn Maps – GSG will review available historical aerial photographs and or Sanborn Maps within the project limits.
- Site Reconnaissance – GSG will perform a site reconnaissance of all accessible areas of the project area and adjoining properties. Adjoining properties and public points of view will be inspected to identify any potential source of environmental concern to the site posed by adjoining properties. The site condition, location of stained or discolored soil,

underground utilities, pipelines, drums and chemical containers, location of PCB-containing transformers, and any evidence of underground storage tanks and above-ground storage tanks will all be noted during the site investigation.

GSG will prepare a report summarizing the site investigation findings and showing the locations of Recognized Environmental Conditions for the local road (non-IDOT) portion of the project area. IDOT will conduct a separate PESA for the portions of the project area under their jurisdiction.

Wetland and Waterway Delineation (GZA)

The wetland and surface water delineation will be performed in accordance with:

- The February 25, 2022, edition of the USACE Chicago District Nationwide Permit (NWP) Program;
- The USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), (Supplemental Wetland Manual); and
- The October 13, 2020, edition of the Lake County Watershed Development Ordinance (WDO).

The following records/documents will be reviewed prior to conducting the field investigation. Soils information will be reviewed to determine the soil types encountered during the delineation procedures. The sources to be reviewed and used include:

- Current and historic aerial photographs.
- U.S. Geological Survey (USGS), Topographic Map.
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) Maps.
- Lake County Wetland Inventory Maps.
- Lake County Advanced Identification of Wetlands (ADID) Maps.
- Natural Resources Conservation Service (NRCS), Soil Survey of Lake County.
- Hydric Soils of the United States.
- Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps (FIRM); and
- USGS, Hydrologic Atlas.

GZA proposes to conduct on-site investigations of all potential wetlands and waterways within the project limits as well as confirm the absence of wetlands if none are present. Proposed services include the identification and delineation of wetlands. Wetland delineation field investigation activities include on-site testing for the presence of hydric soils, hydrophytic vegetation, and sufficient hydrology. A floristic quality assessment (FQA) will be conducted for each identified wetland. Functions of wetlands based on field observations will also be evaluated during the on-site investigations. GZA will flag wetland boundaries in accordance with the WDO. Wetland boundaries will be flagged in the field and will be surveyed by Benesch.

A Wetland Delineation Report will be prepared summarizing the findings of the off-site record/document review and the on-site investigation. This report will be submitted to the Benesch as a PDF only. GZA will not provide shapefiles of the wetland and waterway boundaries. Specific items to be included in the report are as follows:

- Map showing the location, limits, and wetland boundaries within the project limits.
- Aerial photography depicting the appropriate limits of the delineated wetlands and waterways.

- USACE data sheets with FQAs, as required.
- Color photos of the wetlands and the data points; and
- Written description of wetland functional classification.

The NRCS no longer conducts farmed wetland determinations for areas of agricultural conversion. As agricultural land is present within the project limits, conducting a Farmed Wetland Determination (FWD) is included in the scope.

Any impacts to wetlands or waterways will require permits. GZA assumes that wetland permitting will take place during Phase II.

Preliminary Jurisdictional Determination/Boundary Verification (GZA)
This task includes preparing the Preliminary Jurisdictional Determination/Boundary Verification (PJD/BV) submittal and formally requesting a PJD/BV through the Lake County Stormwater Management Commission (LCSMC) for all identified wetlands and waterways/surface waters. Time under this task includes one field meeting with the LCSMC for completion of the PJD/BV as well as time to flag all delineated wetlands and waterways/surface waters for the BV. Time under this task also includes revising the wetland report, if boundaries are modified during the field PJD/BV meeting based on input received from the LCSMC.

As the number of wetlands and open waters is not known at this time, fees associated with this PJD/BV are not included in this scope and are the responsibility of the County.

Wetland/Waters Permitting with either the USACE or Lake County will occur in Phase II and is not included in this scope.

Wetland Impact Evaluation Preparation (GZA)
This task includes completing IDOT's Wetland Impact Evaluation (WIE) form, which is required for a complete ESR submittal. GZA will complete the WIE form using wetland impacts as determined and calculated by Benesch.

Tree Survey (GZA)
GZA will complete a tree survey along the length of the proposed improvement and will include the Lake County Forest Preserve District (LCFPD) site. The limits of the tree survey will be the anticipated construction limits of the proposed improvement. GZA will identify the trees to species level and determine health, structure, and origin. GZA will note whether any trees are of exceptional size and condition. H&H/GZA will also determine which trees are worth avoidance, if any.

Clearing restrictions for the Northern Long Eared Bat require trees with a diameter at breast height (DBH) of 3 inches or greater be identified. Trees that have been intentionally planted for landscaping, environmental mitigation, or habitat preservation/enhancement purposes will be identified regardless of DBH.

Limited trees are located near Bonner Road in the Lakewood Forest Preserve. As a result, the tree survey will follow the LCFPD Ordinance for the protection and mitigation of trees. This proposal assumes that all trees within the project limits along the forest preserve site will be tagged with aluminum tree tags by GZA and once tagged, the trees will be surveyed by Benesch surveyors.

GZA will perform an assessment of northern long-eared bat (NLEB; *Myotis septentrionalis*) habitat within the proposed ROW. The NLEB assessment entails only the assessment of tree resources as potential habitat for NLEB and expressly does not constitute a survey for presence/absence of NLEB within the project or adjacent areas.

After all trees are evaluated within the survey limits, a tabulation of trees will be compiled which summarizes trees and potential impacts. The tree information will include tree species, size, health, structure, origin (volunteer or landscaped tree), and any identified specimen and exceptional trees in a memorandum and be provided in electronic PDF format only.

Section 4(f) Processing

The project has the potential to involve construction impacts (temporary and permanent) to the Lakewood Forest Preserve at the east end of the project corridor. This property is assumed to be classified as protected by Section 4(f), as it is a recreational facility open to the public. This task includes the additional coordination, documentation and processing through IDOT of Section 4(f) impacts. Benesch will document the areas of impact, prepare a Section 4(f) de minimis report, including drafting a letter requesting the jurisdictional agency's concurrence of no adverse effect on the 4(f) lands as a result of the project. Depending on the project's preferred improvements along Bonner adjacent to these properties, the Section 4(f) impacts are expected to be de minimis in nature.

Section 106 and/or Section 107 Cultural Resources Review – Structure

Historic Evaluation and Coordination

The project has potential to impact a structure located within the existing right-of-way of Bonner Road, within 3 feet of the edge of pavement. It is protected by a standard guardrail. The building is a one-story cobblestone and concrete structure with an 8' x 8' square plan and a pyramidal roof. It has not been previously documented by the local historical society and does not appear to have been documented by the Illinois State Historic Preservation Office (SHPO). Its original function and date of construction is unknown, but it does appear to be greater than 50 years old and therefore is subject to review and evaluation under Section 106 of the National Historic Preservation Act of 1966 and/or Section 707 (Illinois State Agency Historic Resources Preservation Act).

Tasks for the historic evaluation scope of work is based on the submission requirements outlined on the SHPO website "Cultural Resource Protection: Submitting a Project for Review" (https://dnrhistoric.illinois.gov/preserve/resource-protection-submittal.html). Projects are submitted for cultural resource review electronically to the SHPO. It is assumed the West Segment Improvement, where this structure is location, will use local funds, therefore will not pass through IDOT Cultural Resources Unit. If federal or state funding is utilized, additional services may be required to support IDOT coordination and meet the requirements of Section 106.

Historic Field Work

This task includes travel to the project site, photographic documentation of structure, and in-person local research.

Determination of Eligibility Report
This task includes preparation of letter report suitable for Section 106 or Section 707, containing project information, project description, and National Register eligibility evaluation of structure. If it is determined that the property/building is not National Register-eligible the Determination of Effects report will not be needed/required.

Project Mapping
This task includes gathering GIS mapping of project area including Area of Potential Effect (APE), SHPO GIS data (HARGIS), historic mapping, and other data as required and available.

Determination of Effects Report
If National Register eligible resources are identified within the APE, a report evaluating the proposed project's effects on the resource will be prepared. (Note: Project plans must be sufficiently developed in order to evaluate effects.)

If the project results in an Adverse Effect finding, mitigation and a Memorandum of Agreement may be required. As mitigation measures can vary greatly depending on the structure's significance, local interest, and other factors, this task is not included in this scope.

Environmental Studies Deliverables:

- ✓ Electronic Submittal of ESR Form and Supporting Documents
- ✓ PESA
- ✓ Wetlands and WOTUS Delineations
- ✓ WIE Submittal with Supporting Documents
- ✓ Tree Survey
- ✓ Section 4(f) de minimis Report
- ✓ Historic Report
- ✓ Determination of Eligibility Report
- ✓ Determination of Effects Report (If Required)

10. Drainage Studies
This task will consist of preparing a Location Drainage Technical Memo (LDTM). The west portion of Bonner Road Between Darell Road and Rand Road is open drainage. The central part of the corridor between Rand Road to just east of Old Rand Road is closed drainage. Then the eastern part of the Bonner Road to Fairfield Road is open drainage.

Existing drainage areas, patterns, and facilities (storm sewers, ditches/swales, field tiles, etc.) will be reviewed and analyzed for their capacity to convey required storm frequency drainage. Coordination will be conducted with the County, SMC, and local stakeholders to identify existing drainage problems and concerns. All deliverables are assumed to be submitted to LCDOT electronically.

Based on an evaluation of the existing drainage conditions, a proposed drainage plan will be developed to accommodate the preferred alternative roadway geometry drainage. This analysis will include any storm sewer sizing, sewer routing, proposed ditch flows, and storm water detention solutions as necessary to meet the site and SMC requirements. A drainage report (LDTM) will be produced and submitted to the County and SMC for review. As part of the Roadway Drainage Study, potential BMP's (Best Management Practices) will be identified.

Drainage Studies Deliverables:

- ✓ Location Drainage Technical Memo (LDTM)

11. Geotechnical Services (*GSG Consultants, Inc.*)

Geotechnical Engineering

Subgrade borings to a depth of 10 feet will be spaced approximately 300 feet in alternating directions of traffic on the shoulders. The total number of borings will be 64 (36 eastbound and 36 westbound).

One (1) pavement core per 2,500 feet from both lanes will be collected. The total number of cores will be 16, consisting of 8 eastbound and 8 westbound pavement cores. The final pavement core locations will be confirmed with the design team.

Subsurface Exploration

A review of all available existing geotechnical data, proposed project improvement, and project-related information will be performed, and a subsurface exploration program will be developed in accordance with the IDOT Geotechnical Manual.

A visual reconnaissance of the project area will be conducted to evaluate access for drilling equipment and locate proposed soil boring locations. The soil borings will be laid out in accordance with the approved work plan. GPS equipment will be used to lay out the soil borings. Ground elevations will be measured using GPS/ or an automatic level.

All required permits from IDOT, the County, the Village of Wauconda, Wauconda Township, etc. will be coordinated and obtained for right of entry and to perform any subsurface exploration.

JULIE will be contacted 48 hours prior to the start of field activities and clearances will be obtained for underground utilities at all boring locations. A joint utility meeting will be requested at locations if necessary to obtain clearance for the planned borings.

Traffic control will be arranged for soil borings requiring traffic control during field activities. Truck-mounted drill rigs will be mobilized to the project area and subsurface exploration activities will be performed. Soil samples will be collected using split-barrel samples utilizing the Standard Penetration Test (SPT) procedures, where subgrade and stability analyses are required, and at the location of all proposed bridges and structures. Four-inch diameter pavement cores will be collected from both lanes. The thickness of the pavement cores will be documented and photos taken alongside a standard measuring tape to indicate the pavement thickness.

Subsurface exploration and sampling activities will be supervised by an experienced field geologist or geotechnical engineer. All material recovered from each split barrel will be carefully examined and visually classified by the field geologist or geotechnical engineer at the time of sampling. The field geotechnical engineer will prepare a written record (field log) providing SPT results, soil classification, field observations and other relevant data.

Soil samples will be preserved in 2-inch diameter, 8-ounce, screw-top, airtight, clear glass jars. The soil samples will be placed in the jars and sealed as soon as taken, and the jars will be stored in cardboard boxes, marked and identified. The jar labels will show the section number, boring number, depth at which the sample was taken, and SPT blow counts. The samples shall be

protected against freezing and the jars against breakage and will be delivered to the soil laboratory daily for laboratory testing.
Each borehole will be backfilled with soil cuttings or grout mix, based on the subsurface condition after the completion of all field explorations and after all samples, observations, and information have been collected. The top of the borehole will be restored to its original condition, ie. Asphalt, concrete patch, or soil fill.

Laboratory Testing
GSG will develop a laboratory testing program on selected soil samples. The type of laboratory testing program is dependent upon the type of soil encountered, but will generally include visual engineering classification, natural moisture content, particle size (sieve & hydrometer), Atterberg limits, and organic content.

Reporting
GSG will review the field and laboratory testing data and will perform engineering analysis for the proposed roadway reconstruction. The engineering analysis for the roadway will include a stability analysis of the subgrade improvement, drainage system, and subgrade frost susceptibility. The geotechnical report will include results of the engineering analysis; pavement design parameters; location and extent of unsuitable and unstable soils present within each crossing area such as highly organic soils, frost susceptible soils, high shrink/swell potential soils, soil with high moisture content, or low shears strength. The report will include location-specific sub-grade treatment recommendations based on the conditions encountered at each location.

Geotechnical Deliverables:

- ✓ Roadway Geotechnical Report (RGR)

12. Public Involvement
This task includes a public involvement program intended to engage local and regional stakeholders at key points during the Phase I process. The program will use a combination of online and in-person strategies. Public involvement letters and exhibits will be provided in English and Spanish.

Stakeholder Involvement Plan
One of the first steps in the public involvement strategy of this project is preparation of an initial list of project stakeholders and Corridor Advisory Group (CAG) participants, and development of a formal Stakeholder Involvement Plan (SIP) for the project. The primary purpose of the SIP is to provide the framework for overall stakeholder involvement throughout the project development process. The SIP will remain flexible based on the needs of the project and may be updated throughout the project development process as necessary.

Virtual Public Forum
The Lake County Virtual Public Forum (VPF) platform will be used for initial public outreach to gather public feedback on existing conditions and problems or deficiencies related to traffic, drainage or non-motorized travel needs. Benesch will prepare the following material to be incorporated into the VPF website by Lake County: Project Location Map, Existing Conditions exhibit with ADT, Crash exhibit, Project Timeline schematic, survey questions, comment starter questions. Materials will be provided to LCDOT for posting. Hosting a project website is not included in this scope.

Postcards advertising the VPF will be prepared and sent to up to 250 property owners. Benesch will also prepare a newspaper advertisement for the VPF to be published in accordance with IDOT BLRS requirements.

Survey responses and comments received through the VPF will be reviewed and summarized for use in alternatives evaluation. A Frequently Asked Questions (FAQ) document and draft responses for up to 30 unique questions not covered by the FAQ will be prepared for LCDOT use. Sending comment responses will be completed by LCDOT and is not included in this scope.

Corridor Advisory Group (CAG)

A Corridor Advisory Group will be developed to facilitate coordination with key community stakeholders. CAG members will be identified based on coordination with LCDOT, Wauconda Township, and the Village of Wauconda. It is anticipated that an initial CAG meeting will be held prior to the Virtual Public Forum and a second round of meetings will be held prior to each Public Meeting.

Stakeholder Meetings

Up to 20 one-on-one or small group meetings will be held with the key project stakeholders and impacted property owners to discuss the proposed improvements. It is anticipated that an initial round of stakeholder meetings will be held prior to the Virtual Public Forum and a second round of meetings will be held prior to each Public Meeting.

Project Video

An artistic rendering of the proposed alternative design will be prepared for use in the stakeholder and public meetings and incorporated into video format.

Two project videos not exceeding five minutes will be prepared for use in the two public meetings and stakeholder meetings as necessary. Project videos will utilize drone footage and may include the following information: description of existing conditions and deficiencies, summary of alternatives considered, 3D/4D visualization of proposed improvements.

Public Meetings

Two open-house public meetings will be held for the project. The first meeting will present alternatives, and the second meeting will present the proposed improvements in accordance with IDOT guidelines outlined in Chapter 21 of the BLRS Manual.

It is anticipated that the public meetings will be held in-person, at a public or easily accessible facility near the project site. Benesch will prepare and supply meeting materials including sign-in sheets, comment forms, a project information handout, exhibit boards, and audio-visual equipment required to play the project video. The project information handout and exhibits will be available in Spanish, and a Spanish translator will be available at the meeting. Meeting materials will be made available electronically to be posted on LCDOT, municipal, and other stakeholder websites.

Postcards advertising the Public Meetings will be prepared and sent to up to 150 property owners based on the address list provided by LCDOT. Benesch will also prepare newspaper advertisements for the Public Meeting to be published in accordance with IDOT BLRS requirements.

Benesch will prepare up to 175 letters notifying impacted property owners of the second public meeting that highlights the preferred alternative. These letters will also include development of property impact exhibits for the impacted property owners. Benesch will also provide LCDOT necessary project information for letters to public officials to be sent by LCDOT.

A public meeting summary document, FAQ document and draft responses for up to 30 comments not covered by the FAQ will be prepared following the Public Meeting. Sending comment responses will be completed by LCDOT and is not included in this scope.

Public Involvement Program Deliverables:

- ✓ Virtual Public Forum questions and exhibits
- ✓ Virtual Public Forum summary, FAQ, and comment responses
- ✓ Publication of meeting notices in local newspapers as required by IDOT
- ✓ Postcard meeting notices
- ✓ Public Meeting materials including exhibits and handouts
- ✓ Public Meeting summaries and comment responses
- ✓ Public official/impacted property owner letters

13. Project Development Report

A draft local Project Development Report (PDR) will be developed for the west segment of the project corridor from Darrell Road to the Robert Crown School Entrance. A draft PDR in IDOT BLR format (BLR22210) will be developed for the east segment of the project corridor from the Robert Crown School Entrance to Fairfield Road. These reports will incorporate the environmental, coordination, public involvement, and engineering aspects of the project. The draft IDOT PDR will be developed prior to the second public information meeting and will be submitted to LCDOT for review. Comments received by LCDOT will be incorporated and resubmitted to LCDOT upon completion of the final public meeting and receipt of required clearances/approvals for review and approval. The Final PDRs will include quantities and cost estimates for the preferred alternatives. All deliverables are assumed to be submitted to LCDOT electronically but submittal format to IDOT for the east segment PDR will be confirmed at the project's kick-off meeting.

Project Development Report Deliverables:

- ✓ Cost Estimates – West Segment and East Segment
- ✓ Local Project Development Report (Draft and Final) – West Segment (Darrell Road to Robert Crown School Entrance)
- ✓ Project Development Report (BLR 22210) (Draft and Final) – East Segment (Robert Crown School Entrance to Fairfield Road)

14. Agency Coordination and Meetings

This task includes design coordination with the various agencies impacted by the preferred alternative as established by the Alternatives Analysis and Geometric Studies.

The following coordination meetings are anticipated:

- Initial kick-off meeting with Lake County Division of Transportation – 1 meeting (In Person)
- Design review/coordination meetings with Lake County – 1 meeting per month (virtual)
- Preferred Alternative Evaluation Meeting with Lake County – 1 meeting (In Person)
- SUE Study Coordination Meeting with LCDOT – 1 meeting (virtual)
- SUE Utility Company Coordination Meetings – 6 meetings (In Person)

- Drainage Kickoff Meeting – 1 meeting (In Person)
- Drainage Stakeholder Meeting – 1 meeting (In Person)
- Coordination meetings with the Village of Wauconda and Wauconda Township – 2 Meetings (In person)
- IDOT Kick-Off meeting – 1 meeting (virtual)
- IDOT Permits meetings – 1 meeting (virtual)
- IDOT Geometrics meetings - 2 meetings (virtual)
- FHWA Coordination meetings - 1 meeting (virtual)
- Environmental permitting meetings to establish design requirements with:
  - Lake County Stormwater Management – 1 meeting (virtual)
  - US Army Corps of Engineers (USACE) – 1 meeting (virtual)
- Lake County Forest Preserve coordination meetings – 2 meetings (virtual)
- Up to 5 additional agency coordination meetings as needed (virtual)

Additional services in this task include preparation of meeting agendas and exhibits/materials, preparation and distribution of meeting minutes, submittal of project design documents and reports for agency review, and follow-up correspondence.

Agency Coordination Deliverables:

- ✓ Meeting agenda packets and minutes
- ✓ Records of conversation (ROC) and e-mails of all coordination activities with the County and various agencies

15. Project Management and Administration and Project Documentation

Administration consists of project management responsibilities such as: Project scheduling activities, invoicing, tracking and communicating scope creep, staffing resource management and internal project team meetings to provide a quality product on schedule and within budget. Benesch will prepare progress reports and invoices on a four-week cycle. These progress reports and invoices will be in a format acceptable to the County.

Benesch will prepare a project schedule, including a breakdown of the major tasks depicting the project's key milestones and deliverables for Phase I.

Project Management and Administration Deliverables:

- ✓ Project Work Plan
- ✓ Progress Reports
- ✓ Scope Creep Log
- ✓ Invoices
- ✓ Project Schedule

16. Quality Assurance / Quality Control (QA/QC)

QA/QC consists of development of a QA/QC Plan and will include the internal processes necessary to ensure consistency and accuracy of documents and deliverables. Deliverables will be checked by independent peer reviews prior to delivery to LCDOT. Documentation of QA/QC procedures will be maintained and will be furnished upon request.

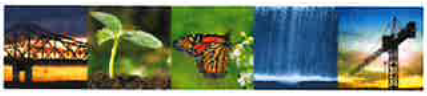
QA/QC and Administration Deliverables:

- ✓ QMP

BONNER RD, DARRELL RD TO FAIRFIELD RD

PHASEI

SUBCONSULTANT SCOPES OF WORK



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November 20, 2025

via email: rjacox@benesch.com

Ryan Jacox, PE – Project Manager
Alfred Benesch and Associates
35 W. Wacker Drive, Suite 3300
Chicago, Illinois 60601

Re: Phase I Environmental Services
Bonner Road Improvement, Lake County DOT
Wauconda, Lake County, Illinois
Proposal No. 81.P013099.26

Dear Mr. Jacox:

GZA Illinois, Inc. (GZA), formerly Huff & Huff, is pleased to submit this scope of services and cost estimate to Alfred Benesch and Associates (Client) to provide Phase I Environmental Services for the proposed improvements along Bonner Road between Darrell Road and Fairfield Road, in Wauconda, Lake County, Illinois.

Per Client request, the scope for this project includes tasks for supporting Phase I engineering studies with environmental services for the proposal improvement to Bonner Road. This proposal presents our project approach, scope of services, cost, and schedule for completing the project.

1. PROJECT BACKGROUND

The Client is preparing a Phase I Preliminary Engineering scope of work for the proposed improvement of Bonner Road. The Phase I Preliminary Engineering Study will be completed in accordance with the Illinois Department of Transportation of Transportation's (IDOT) Bureau of Local Roads & Streets Policies & Procedures for improvements. This scope of work does not include Phase II services at this time.

We understand the project limits extend from Darrell Road on the west to Fairfield Road on the east, approximately 3.5 miles in length. We understand the proposed scope of construction has not yet been identified, and Phase I engineering studies are to evaluate potential options, including, but not limited to roadway and utility improvements.

Land use along the route includes agricultural land east of Darrell Road transitioning to residential and school approaching US Route 12 (US 12). East of US 12, there is a mix of commercial and industrial uses including a gas station to east of Garland Road where the land use transitions back to residential to Fairfield Road. The Lakewood unit of the Lake County Forest Preserve is located on the south side of Bonner Road from Wauconda Road to Fairfield Road. A quarrying operation is located north of Bonner west of Garland Road.

2. SCOPE OF SERVICES

The following scope of services will be undertaken for the proposed Bonner Road improvement project.

In preparing this proposal, GZA has made the following assumptions.

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- As this project will be processed through IDOT Local Roads, biological and cultural clearances will be made available through the IDOT Environmental Survey Request process.
- GZA will complete field delineations of all wetlands and Waters of the United States (WOUS) within the project limits, plus an additional 100 feet per Lake County regulatory requirements.
- Access to all areas within the project limits to conduct field investigations will be provided by Client.
- All fees associated with obtaining wetland banking credits are not included in this scope of services and are the responsibility of the County. It is anticipated that any necessary wetland mitigation will be provided through LCDOT's credits in the Buffalo Creek Wetland Bank.
- The fees for conducting the Preliminary Jurisdictional Determination and Boundary Verification are not included in the cost estimate. The number of wetlands that will be encountered is not known at this time. These fees will be the responsibility of the Lake County DOT.
- Wetland permitting will be included in Phase II.

Task 1: Wetland and Waterway Delineation

GZA understands that regulated wetlands are potentially located within or adjacent to the project limits. GZA proposes conducting a wetland and surface water delineation in accordance with:

- The February 25, 2022, edition of the USACE Chicago District Nationwide Permit (NWP) Program;
- The USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), (Supplemental Wetland Manual); and
- The October 13, 2020, edition of the Lake County Watershed Development Ordinance (WDO).

A. **Off-site Record/Document Review**

The following records/documents will be reviewed prior to conducting the field investigation. Soils information will be reviewed to determine the soil types encountered during the delineation procedures. The sources to be reviewed and used include:

- Current and historic aerial photographs.
- U.S. Geological Survey (USGS), Topographic Map.
- U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) Maps.
- Lake County Wetland Inventory Maps.
- Lake County Advanced Identification of Wetlands (ADID) Maps.
- Natural Resources Conservation Service (NRCS), Soil Survey of Lake County.
- Hydric Soils of the United States.
- Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps (FIRM); and
- USGS, Hydrologic Atlas.

B. **On-Site Investigation (Field Inventory)**

GZA proposes to conduct on-site investigations of all potential wetlands and waterways within the project limits as well as confirm the absence of wetlands if none are present. Proposed services include the identification and delineation of wetlands. Wetland delineation field investigation activities include on-site testing for the presence of hydric soils, hydrophytic vegetation, and sufficient hydrology. A floristic quality assessment (FQA) will be conducted for each identified

wetland. Functions of wetlands based on field observations will also be evaluated during the on-site investigations. GZA will flag wetland boundaries in accordance with the WDO. Wetland boundaries will be flagged in the field and will be surveyed by others.

Task 2: Wetland Report

Upon completion of Task 1, a Wetland Delineation Report will be prepared summarizing the findings of the off-site record/document review and the on-site investigation. This report will be submitted to the Client as a PDF only. GZA will not provide shapefiles of the wetland and waterway boundaries. Specific items to be included in the report are as follows:

- Map showing the location, limits, and wetland boundaries within the project limits.
- Aerial photography depicting the appropriate limits of the delineated wetlands and waterways.
- USACE data sheets with FQAs, as required.
- Color photos of the wetlands and the data points; and
- Written description of wetland functional classification.

The NRCS no longer conducts farmed wetland determinations for areas of agricultural conversion. As agricultural land is present within the project limits, conducting a Farmed Wetland Determination (FWD) is included in the scope.

Any impacts to wetlands or waterways will require permits. GZA assumes that wetland permitting will take place during Phase II.

Task 3: Preliminary Jurisdictional Determination/Boundary Verification

This task includes preparing the Preliminary Jurisdictional Determination/Boundary Verification (PJD/BV) submittal and formally requesting a PJD/BV through the Lake County Stormwater Management Commission (LCSMC) for all identified wetlands and waterways/surface waters. Time under this task includes one field meeting with the LCSMC for completion of the PJD/BV as well as time to flag all delineated wetlands and waterways/surface waters for the BV. Time under this task also includes revising the wetland report, if boundaries are modified during the field PJD/BV meeting based on input received from the LCSMC.

As the number of wetlands and open waters is not known at this time, fees associated with this PJD/BV are not included in this scope and are the responsibility of the County.

Wetland/Waters Permitting with either the USACE or Lake County will occur in Phase II and is not included in this scope.

Task 4: Wetland Impact Evaluation

This task includes completing IDOT's Wetland Impact Evaluation (WIE) form, which is required for a complete ESR submittal. GZA will complete the WIE form using wetland impacts as calculated by the Client.

Task 5: Tree Survey

GZA will complete a tree survey along the length of the proposed improvement and will include the Lake County Forest Preserve (LCFPD) site. The limits of the tree survey will be the anticipated construction limits of the proposed improvement. GZA will identify the trees to species level and determine health, structure, and origin. GZA will note whether any trees are of exceptional size and condition. GZA will also determine which trees are worth avoidance, if any.

IDOT Departmental Policies (D&E – 18) specifies all trees with a diameter at breast height (DBH) of six inches or greater as well as trees with a DBH of less than six inches when such have been intentionally planted for landscaping, environmental mitigation, or habitat preservation/enhancement purposes be identified.

Limited trees are located near Bonner Road in the Lakewood Forest Preserve. As a result, the tree survey will follow the LCFPD Ordinance for the protection and mitigation of trees within that segment of the proposed improvement. This proposal assumes that all trees within the project limits along the forest preserve site will be tagged with aluminum tree tags by GZA and once tagged, the trees will be surveyed by Benesch surveyors.

This proposal includes an assessment of northern long-eared bat (NLEB; *Myotis septentrionalis*) habitat within the proposed ROW. The NLEB assessment entails only the assessment of tree resources as potential habitat for NLEB and expressly does not constitute a survey for presence/absence of NLEB within the project or adjacent areas. Based on current guidance, all trees three inches or greater will be assessed for their potential to harbor bats.

GZA will not conduct GPS survey of trees and will rely on Benesch surveyors to conduct the tree survey.

Task 6: Tree Survey Report

After all trees are evaluated within the survey limits, a tabulation of trees will be compiled which summarizes trees and potential impacts. The tree information will include tree species, size, health, structure, origin (volunteer or landscaped tree), and any identified specimen and exceptional trees in a memorandum and be provided to the Client in electronic PDF format only.

Task 7: QAQC

Time under this task includes QA/QC time for resource reviews, and report as described above.

Task 8: Project Administration/Project Management

Time under this task includes project administration and management activities that include cost and schedule tracking, coordination with Client on authorized activities, report production, and other in-house management activities. This task includes preparing a Health and Safety Plan as appropriate for the project and tasks therein.

We appreciate the opportunity to submit this scope of services. Please feel free to contact the undersigned at (630) 684-4411 with any questions.

Very truly yours,

GZA Illinois, Inc.

Jim Novak, P.W.S.
Associate Principal

Attachments

GSG CONSULTANTS, INC
ENGINEERS | SCIENTISTS | CONSTRUCTION MANAGERS

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Scope of Geotechnical Investigations
Bonner Road between Darell Road and Fairfield Road
Lake County
November 19, 2025

The anticipated project scope will include a reconstruction and rehabilitation of Bonner Road from Darrell Road on the west to Fairfield Road on the east, spanning approximately 3.6 miles. Most parts of the Bonner Road have one lane with an outside paved shoulder in each direction. GSG's services include the following:

A. Geotechnical Engineering
B. Preliminary Environmental Site Assessment (PESA)

A. Geotechnical Engineering

For proposed roadway improvements, the following will be implemented:

- Subgrade borings to a depth of 10 feet will be spaced approximately 300 feet in alternating directions of traffic on the shoulders. The total number of borings will be 64 (32 eastbound and 32 westbound).
- One (1) pavement core per 2,500 feet from both lanes will be collected. The total number of cores will be 16, consisting of 8 eastbound and 8 westbound pavement cores. The final pavement core locations will be confirmed with the design team.

Below is the project approach for the investigation and reporting.

1. *Subsurface Exploration*

- Review all available existing geotechnical data, proposed project improvement, and project-related information, and develop a subsurface exploration program in accordance with the IDOT Geotechnical Manual.
- Conduct a visual reconnaissance of the project area to evaluate access for drilling equipment and locate proposed soil boring locations. Layout the soil borings in accordance with the approved work plan. We will use GPS equipment to layout the soil borings. We will also measure the ground elevation using GPS/ or an automatic level.
- Coordinate and obtain the required permit from IDOT, County, Village, etc. for obtaining the right of entry and permits to perform any subsurface exploration.
- Contact JULIE 48-hours before the start of field activities and obtain clearance for underground utilities at all boring locations. We will request a joint utility meeting at locations if necessary to obtain clearance for the planned borings.
- Arrange for traffic control for soil borings requiring traffic control during field activities

- Mobilize truck-mounted drill rigs to the project area and perform subsurface exploration activities. Soil samples will be collected using split-barrel sampling in accordance with Standard Penetration Test (SPT) procedures, where subgrade and stability analyses are required, and at the locations of all proposed bridges and structures.
- Collect 4-inch diameter pavement cores from both lanes. We will document the thickness of the pavement cores and take photos alongside a standard measuring tape to indicate the pavement thickness.
- Subsurface exploration and sampling activities will be supervised by an experienced field geologist or geotechnical engineer. All material recovered from each split barrel will be carefully examined and visually classified by the field geologist or geotechnical engineer at the time of sampling. The field geotechnical engineer will prepare a written record (field log) providing SPT results, soil classification, field observations and other relevant data.
- Soil samples will be preserved in 2-inch diameter, 8-ounce, screw-top, airtight, clear glass jars. The soil samples will be placed in the jars and sealed as soon as taken, and the jars will be stored in cardboard boxes, marked and identified. The jar labels will show the section number, boring number, depth at which the sample was taken, and SPT blow counts. The samples shall be protected against freezing and the jars against breakage and will be delivered to the soil laboratory daily for laboratory testing.
- We will backfill each borehole with soil cuttings or grout mix, based on the subsurface condition after the completion of all field explorations and after all samples, observations, and information have been collected. Restore the top of the borehole to its original condition, ie. Asphalt, concrete patch, or soil fill.

2. *Laboratory Testing*

   GSG will develop a laboratory testing program on selected soil samples. The type of laboratory testing program is dependent upon the type of soil encountered, but will generally include visual engineering classification, natural moisture content, particle size (sieve & hydrometer), Atterberg limits, and organic content.

3. *Reporting*

   GSG will review the field and laboratory testing data and will perform engineering analysis for the proposed roadway reconstruction. The engineering analysis for the roadway will include a stability analysis of the subgrade improvement, drainage system, and subgrade frost susceptibility. The geotechnical report will include results of the engineering analysis; pavement design parameters; location and extent of unsuitable and unstable soils present

within each crossing area such as highly organic soils, frost susceptible soils, high shrink/swell potential soils, soil with high moisture content, or low shears strength. The report will include location-specific sub-grade treatment recommendations based on the conditions encountered at each location.

Deliverables: Roadway Geotechnical Report.

B. Preliminary Environmental Site Assessment (PESA)

The purpose of the PESA is to determine the location of potential sources of recognized environmental conditions within the local road portions of the project limit. IDOT will conduct a separate PESA for portions of the project area under its jurisdiction. GSG will conduct PESA in accordance with the requirements of IDOT and will follow Chapter 27 "Environmental Surveys" of IDOT's Bureau of Design & Environment manual procedures, and ISGS' publication "A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Projects". The scope of work will include:

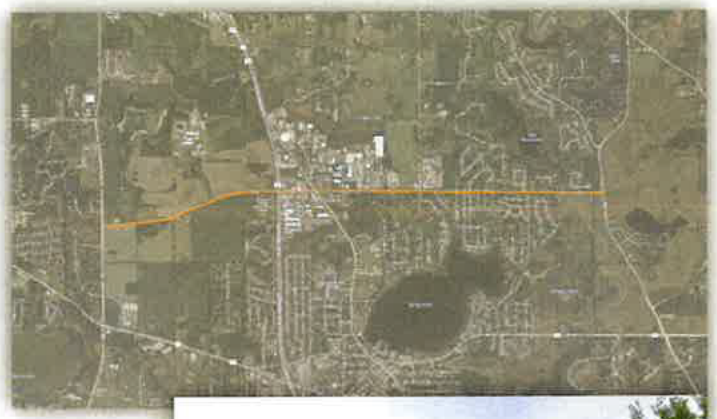
- Regulatory Background Review – GSG will obtain and review a copy of the federal and state government records for the property in accordance with the ASTM standards.
- Review Historical Aerial Photographs and/or Sanborn Maps – GSG will review available historical aerial photographs and or Sanborn Maps within the project limits.
- Site Reconnaissance – GSG will perform a site reconnaissance of all accessible areas of the project area and adjoining properties. We will inspect the adjoining properties from the site and public viewpoints to identify any potential environmental concerns posed by adjoining properties to the site. We will note the site condition, the location of stained or discolored soil, underground utilities, pipelines, drums and chemical containers, the location of PCB-containing transformers, and any evidence of underground or above-ground storage tanks.

Deliverable – GSG will prepare a report summarizing the site investigation findings and showing the locations of Recognized Environmental Conditions for the local roads portion of the Project Area.

Bravo Company ENGINEERING

EXHIBIT A – SCOPE OF SERVICES

I. TECHNICAL APPROACH AND PROJECT UNDERSTANDING



This project involves a Quality Level B ("QLB") subsurface utility engineering (SUE) investigation of the Bonner Road corridor from Darrell Road to Fairfield Road; this amounts to a total length of approximately 3.5 miles.

QLB involves the use of surface geophysical techniques to determine the existence and horizontal position of underground utilities as well as their approximate vertical depths. This activity is called "designating". It further correlates utility records and surface topographical information and may also help reveal unrecorded lines. This information may be sufficient to accomplish preliminary engineering goals, by helping the designer to determine where to place storm drainage systems, footers, foundations, and other design features in order to avoid conflicts with existing utilities. Slight adjustments in the design may produce substantial cost savings by eliminating utility relocations.

Our project approach will include the following:

A. Utility Company Coordination – JULIE, Inc. serves as a message handling, notification service for underground facility owners, taking information about planned excavations and distributing this information to its membership. It is then the responsibility of each facility owner to mark the location of their underground facilities at the excavation site or notify the excavator that they have no facilities in conflict with the proposed excavation.

We will first submit to JULIE a Design Stage/Planning Information Request. The Design Stage/Planning Information Request is beneficial for engineers and others who are in the design or planning stage of a project and excavation is not intended in the immediate future. We will indicate that we are in the design stage of the project, the information will be processed, and we will receive a list of affected member engineering contacts via email.

We will send letters to the utility companies within the project limits requesting copies of their utility atlases. While locating an underground utility line is not an exact science, the atlases will be used to incorporate utility locations within our project base drawing.

The facility owners are required to respond to a valid design stage request within 10 working days upon notification by the designer in one of three ways:

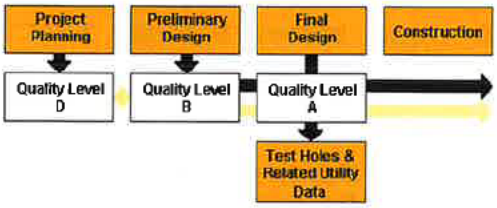
- Provide drawings/prints of the location of the facility owner's underground facilities at the proposed site.
- Show the location of the facility owner's underground facilities on a drawing provided by the designer.
- Locate and mark the facility owner's underground facilities at the proposed job site.

As responses from utility companies are received, we will log all correspondence and begin creating a preliminary utility base file to reflect approximate and "Level D" locations of existing facilities in the project area.

B. Field Investigation – This item includes review of the existing topographic survey and utility base file prepared, and a "plan-in-hand" field investigation of the project site will be performed to verify the completeness and accuracy of the utility

atlases and corresponding Level D data. Bravo Company will utilize electronic depth gauge tools and software to precisely measure both horizontal and vertical depths of all existing utilities within the project limits. Once measured, this Quality Level B utility information will be automatically stored in data files that can be easily imported into contract drawings and sheets.

C. **Contract Drawings** - Bravo Company will use the field-measured Quality Level B data files, existing topographic survey file, and other base drawing files being prepared by Benesch to further refine the utility base file and ensure it depicts the position and type of all known utilities (aerial and underground) and facilities obtained through the design stage/planning process. In addition, we will utilize the vertical information imported through the Quality Level B investigation to create a 3D Utility Model. This 3D model can serve as a useful tool in the conflict analysis process and can eventually be incorporated into the Benesch profile and cross section sheets.



Using a consistent border sheet drawing file, as developed by Benesch, we will prepare Subsurface Utility Engineering plan sheets that can be used within the contract construction documents at a scale of 1" = 50' and that can also be printed to PDF for electronic distribution and viewing.

II. Technical Experience

The Bravo Company Engineering team assembled has over 25-years of combined experience supporting Utility, County, IDOT, Tollway, and other Agencies through design process with Project Management and Design Services. Our independent and impartial utility services include conflict analysis, conflict resolution, and supporting status of utility services beginning at the preliminary investigation Level D with design stage requests, existing records obtained and oral recollections from public works staff, and progressively up through the requisite levels of quality C, B, and A for each individual utility and to ascertain conflict resolution.

When required, we are competent in the coordination of utility efforts to complete IDOT's Status Of Utility specification that is typically included within LCDOT contract letting documents. Other responsibilities have included nondestructive techniques to incorporate the roadway's design, surface characteristics, surveying and mapping, vacuum excavation, and asset management technologies to identify and classify quality levels of existing subsurface utility data as well as mapping locations of the underground utilities.

Bravo Company Engineering can meet this contract obligation with our current staff and has the knowledge and experience to perform the Project Management and Subsurface Utility Engineering. Teaming with an experienced design consultant staff also ensures proper scheduling of the work so that the project is on target beginning-to-end.

We are confident that our team has what it takes to deliver a successful program and quality product that Benesch, our team, and the Client's staff can be proud of.

Very fitting for this project is Bravo Company Engineering's philosophy mantra of BE, KNOW, DO! Be the expert, Know the job, and Do the difficult!

Sue Lead Investigative Engineer

Reid Magner, P.E.

Reid is engaged, enthusiastic, and volunteers throughout the Chicagoland Region with the APWA having served as their branch past-president and has a record of large project achievements; he understands planning, design, land acquisition, and construction services; he has skillful guidance and expertise extending thru the design engineering team, leadership with contagious energy and project engagement.

Reid's essential duties and responsibilities include the implementation of projects in accordance with guidelines for local cities/municipalities, counties, and other state agencies utilizing local, federal, and other specialty type funding. His project

Bravo Company ENGINEERING

work includes the design and preparation of plans, special provisions, permit applications, quantity calculations and estimates of cost and time, exhibits and engineering specialty reports for projects, and subsurface utility engineering.

He leads meetings with clients and agencies, conducts public involvement activities, as necessary, and performs day-to-day engineering tasks as dictated by workload.

Request #	General Information			QLA, QLC or QLB Start Location Information							QLB End Location Information					Utility Information					
	Contract #	Location Information	Property Owner	SUE Quality Level (A,B,C)	Nearest Mile Post (Start)	Mainline Station # (Start)	Offset FT	Offset L/R	Northing (Start)	Easting (Start)	Nearest Mile Post (End)	Mainline Station # (End)	Offset FT	Offset L/R	Northing (End)	Easting (End)	Utility Type	Utility Owner Name	Utility Size	Utility Material	Drawing Provided
1	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.6	3720+00	120	L	2086630.248	1087938.242							Fiber Optic	G4S Company	10"	HDPE	
2	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.6	3720+50	120	L	2086580.219	1087940.883							Fiber Optic	G4S Company	10"	HDPE	
3	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.6	3721+00	120	L	2086530.192	1087942.523							Fiber Optic	G4S Company	10"	HDPE	
4	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.6	3721+50	120	L	2086080.165	1087944.163							Fiber Optic	G4S Company	10"	HDPE	
5	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.6	3722+00	120	L	2086130.138	1087945.804							Fiber Optic	G4S Company	10"	HDPE	
6	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.6	3722+35	111	L	2086164.832	1087955.473							Fiber Optic	G4S Company	10"	HDPE	
7	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.6	3722+50	108	L	2086179.683	1087960.154							Fiber Optic	G4S Company	10"	HDPE	
8	RR-18-4382	SSR at Tri-State Tollway	ISTHA	QLA	7.6	3723+00	105	L	2086229.616	1087962.992							Fiber Optic	G4S Company	10"	HDPE	
9	RR-18-4382	SSR at Tri-State Tollway	ISTHA	QLA	7.5	3723+25	106	L	2086254.601	1087963.834							Fiber Optic	G4S Company	5-1 1/2", 6-1 1/4"	HDPE	
10	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.5	3723+75	112	L	2086304.795	1087958.941							Fiber Optic	G4S Company	5-1 1/2", 6-1 1/4"	HDPE	
11	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.5	3724+00	121	L	2086330.053	1087951.722							Fiber Optic	G4S Company	5-1 1/2", 6-1 1/4"	HDPE	
12	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.5	3724+50	121	L	2086180.035	1087953.076							Fiber Optic	G4S Company	5-1 1/2", 6-1 1/4"	HDPE	
13	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.5	3725+00	121	L	2086430.009	1087954.707							Fiber Optic	G4S Company	5-1 1/2", 6-1 1/4"	HDPE	
14	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.5	3725+50	121	L	2086479.982	1087956.339							Fiber Optic	G4S Company	5-1 1/2", 6-1 1/4"	HDPE	
15	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.5	3726+00	121	L	2086529.955	1087957.971							Fiber Optic	G4S Company	5-1 1/2", 6-1 1/4"	HDPE	
16	RR-18-4382	NW Quadrant, SSR at I-94	ISTHA	QLA	7.5	3726+50	121	L	2086579.929	1087958.602							Fiber Optic	G4S Company	5-1 1/2", 6-1 1/4"	HDPE	
17																					

III. Scope of Subsurface Utility Engineering (SUE) Services

Our Subsurface Utility Engineering (SUE) Investigative approach involves coordination with JULIE and the utility companies owning facilities within the project limits, a field investigation to the site to perform electronic depth measurements of utilities, and preparation of 2D and 3D utility base files to assist in the creation of SUE Investigation of Underground Utilities drawings.

1. **Early Coordination and Data Collection**
   - A. Submit to JULIE a Design Stage/Planning Information Request to determine which utility companies are within the project limits and who should be contacted with future atlas request
   - B. Send letters to the utility companies within the project limits requesting copies of their utility atlases.
   - C. Develop a utility log to document all utility coordination efforts.
   - D. Develop a preliminary 2D utility base file based using all atlases files received (Quality Level D). This preliminary base will be used as a guide during field investigations.

2. **Field Survey**
   - A. A Site Investigation will be conducted to obtain electronic horizontal and vertical measurements of all existing utilities (Quality Level B) as well as photo documentation of above ground and aerial facilities. The SUE study will be performed in accordance with ASCE standard 38-22.
   - B. Following the initial field survey, Bravo will accompany Benesch staff to perform a SUE plan-in-hand field walk. The purpose of this walk will be to verify and look for items in the field that may indicate the presence of an unlocated facility.

3. **SUE Plan Sheets and Utility Model Development**
   - A. Import Quality Level B data to further refine 2D utility base file.
   - B. Use Quality Level B data to create a 3D utility model using Microstation's OpenRoads Designer Subsurface Utility tools.
   - C. Use 2D Utility Base file, additional base files provided by Benesch, and IDOT's standard border to develop SUE Investigation of Underground Utilities sheets. Sheets include color coded utility linework, utility owner callouts, and electronic depth labels at key crossing locations. Unique linestyles will be utilized to differentiate between SUE quality levels as appropriate.

Bravo Company ENGINEERING

D. Quality Level A ("QLA "), if necessary, involves the use of nondestructive digging equipment at discrete, critical points to determine the precise horizontal and vertical position of underground utilities, as well as the type, size, condition, material, and other characteristics. This activity is called "locating." It is the highest quality level presently available. This information, when combined with other surveyed and mapped information, allows the designer to infer plan and profile information, for use in making final design decisions. By knowing exactly where a utility is positioned in three dimensions, the designer can accurately determine the extent of a utility conflict, or can often make small adjustments in elevations or horizontal locations and avoid the need to relocate utilities. Additional information such as utility material, condition, size, soil contamination, and paving thickness also assists the designer and utility owner in their decisions. QLA information (in the form of test hole logs), when included in the project bid documents, may yield more favorable bids due to reduced contractor uncertainty about subsurface conditions.
    i. Where a potential QLA SUE investigation is determined to have value and assists the project team in making final design decisions, we will first request that the affected utilities perform their own investigations to be supported by as-built documentation though field exploratory logs at no cost to the project. If the affected Utility is not able to provide a QLA SUE investigation, Bravo Company Engineering can provide the necessary QLA SUE vacuum excavation services. Work assumes access is available to the excavation sites and no surface locates, survey marks, traffic control, permits or permission from property owners, utilities, and government agents, or permitting fees will be required.

4. Utility Company Coordination

A. As the existing utility locations, potential conflicts, and potential relocations are identified, Bravo will coordinate with utility companies to ensure all conflicts are identified and mitigated before construction begins.
B. Prior to Phase 2 milestone submittals, the D-1 Status of Utility Spec will be completed to document all conflicts and define relocation timelines.
C. Level B Utility information will be shared with each utility company. Bravo will then host in-person meetings with each company to review the information, confirm the findings, and begin preliminary conflict analysis. It is assumed that individual meetings will be held with five utility companies.

5. Project Administration

A. After the completion of the County's plan reviews, we will address comments received and bring resolution to any concerns.

AGREEMENT FOR
LAND ACQUISITION AND VALUE CONSULTING

Benesch
SCOPE OF SERVICES AND BUDGET
Bonner Road, from Darrell Road to Fairfield Road

1. The Lake County Division of Transportation has engaged Benesch to provide Phase 1 and Phase 2 Engineering Services as part of the Bonner Road, from Darrell Road to Fairfield Road Improvement Project.

2. Benesch hereby engages Mathewson Land Services, Inc. (MLS), to provide professional assistance with regard to right of way issues arising as part of the Phase 1 Engineering and Analysis.

3. MLS shall perform the following services in conjunction with the above referenced Project:

   Ownership Research and Analysis: MLS shall provide research and advice on the ownership of properties potentially impacted by the proposed improvements. The research may consist of obtaining title commitments or copies of recorded documents. The research may also include identifying any potential acquisition complications apparent in the public record.

   Valuation: MLS shall provide opinions on probable costs associated with various design alternatives. The opinions may be based in whole or part on cost analysis prepared by licensed appraisers. MLS shall identify valuation challenges and potential cost savings arising from design options.

   Other Services: MLS agrees to provide additional services as the parties may agree are appropriate in furtherance of the project.

4. Services shall be invoiced approximately monthly at the rates set forth below. MLS fees shall not exceed the following:

Task/Provider	Hours	Rate	Extension
Attorney	60	$350.00	$21,000.00
Appraiser	60	$300.00	$18,000.00
Staff	60	$200.00	$12,000.00
Total			$51,000.00
Direct Expenses*			$15,000.00

* Direct Expenses shall include title research and related document copies.

Total Fees	$66,000.00

Total cost for all services: $66,000.00.

Respectfully submitted:

Mathewson Land Services, Inc.

By: _____
Mark D. Mathewson, President

Date: March 25, 2026

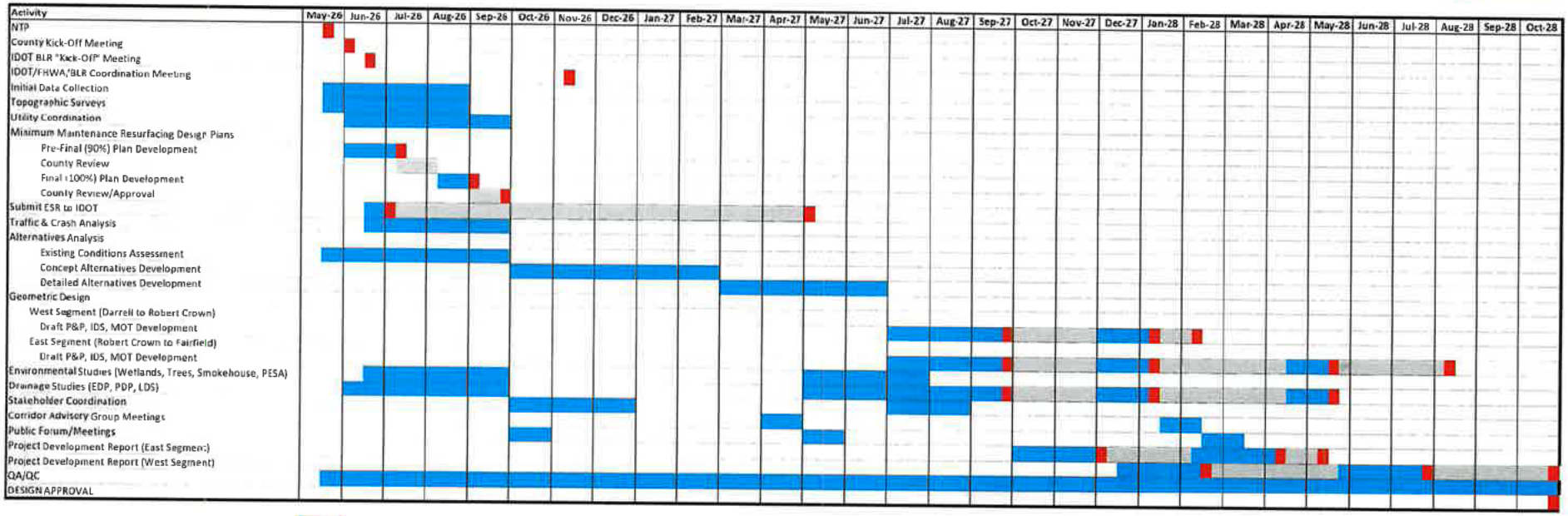
EXHIBIT B: PROJECT SCHEDULE

BONNER RD, DARRELL RD TO FAIRFIELD RD

PHASE I

Bonner Road Improvements, Darrell Road to Fairfield Road
Phase I Project Schedule

benesch



Advancement of task:
Milestone:
By others :

BONNER RD, DARRELL RD TO FAIRFIELD RD

PHASE I

DETAILED SCOPE/TASKS AND HOURS

Lake County Division of Transportation
Bonner Road, Darrell Road to Fairfield Road - Phase I
Estimate of Hours (3-25-26)

TASK	DESCRIPTION	HOURS	HOURS	HOURS	HOURS	HOURS	Direct Cost
1	**Data Collection**	**Benesch**	**Bravo**	**GSG**	**GZA**	**Mathewson**	**Direct Cost ESTIMATE**
	Compile, organize and review the following information: Record plans, plats, development plans, roadway plans, prior engineering studies, GIS, ROW	140					
	Drone aerial video and photography	16					1 vehicle @ $65/day x 2 visit = $130
	Existing conditions linework for resurfacing plans (coordination with Ecopia), field verification of linework accuracy (2 staff x 1 visit x 8 hrs/visit)	20					1 vehicle @ $65/day x 1 visit = $65 Existing Conditions Linework (Ecopia) = $660
	Site visit, observations, field measurements and creation of photo log - 2 staff x 2 visits x 8 hrs/visit (includes prep/documentation) + 16 hrs photo log	48					1 vehicle @ $65/day x 2 visits = $130
	Site visit, drainage and detention observations 2 staff x 1 visit x 8 hrs/visit (includes prep/documentation)	18					1 vehicle @ $65/day x 1 visit = $65
	Site visit, SUE study field verification 2 staff x 1 visit x 8 hrs/visit (includes prep/documentation)	18					1 vehicle @ $65/day x 1 visit = $65
	Sub-Total Task 1 =	**260**	**0**	**0**	**0**	**0**	

2	**Design Survey - Benesch**	**Benesch**	**Bravo**	**GSG**	**GZA**	**Mathewson**	**Direct Cost ESTIMATE**
	Set up survey project	24					
	Set Control	68					1 vehicle @ $65/day x 8 days = $520
	ROW Search	48					1 vehicle @ $65/day x 6 days = $390
	Drainage structure measurements	48					1 vehicle @ $65/day x 6 days = $390
	Individual tree pickup 3" or greater in heavy growth areas	32					1 vehicle @ $65/day x 4 days = $260
	Downloading/data reduction	40					
	One trip to the Recorder's office in Lake County	8					1 vehicle @ $65/day x 1 day = $65, $150 Recorder Fees
	Existing Right-of-Way Determination and research	120					
	Field Topography	240					1 vehicle @ $65/day x 30 days = $1,950
	Return Pickup Survey for engineering alternative revisions	24					1 vehicle @ $65/day x 3 days = $195
	Drone Survey	120					1 vehicle @ $65/day x 15 days = $975
	Sub-Total Task 2 =	**772**	**0**	**0**	**0**	**0**	

3	**Utility Coordination**	**Benesch**	**Bravo**	**GSG**	**GZA**	**Mathewson**	**Direct Cost ESTIMATE**
	SUE Survey support, exhibits, and coordination - utility conflict impact assessment	40					
	Conflicts Identification Table	24					
	Coordinate proposed improvement plan transmittal to utility companies with record utility information. (draft letter and transmit with plan set)	24					
	Utility relocation plans and related coordination meetings not included	0					
	SUE Survey (Bravo)	40	1000				See subconsultant attachments for cost
	Sub-Total Task 3 =	**128**	**1000**	**0**	**0**	**0**	

4	**Minimum Maintenance Resurfacing Design Plans and Contract Documents**	**Benesch**	**Bravo**	**GSG**	**GZA**	**Mathewson**	**Direct Cost ESTIMATE**
	General Open Roads Designer Setup and Ecopia Linework Conversion to IDOT Line Styles	12					
	Cover Sheet	4					
	General Notes	18					
	Summary of Quantities	32					
	Schedule of Quantities	60					
	Typical Sections	40					
	Alignment, Ties and Benchmarks	30					
	Existing Conditions/Removal Base	48					
	Proposed Base	156					
	Pavement Marking Base	156					
	Roadway Plan Sheets (Removal, Proposed, & Pavement Marking)	240					
	MOT General Notes	12					

Lake County Division of Transportation
Bonner Road, Darrell Road to Fairfield Road - Phase I
Estimate of Hours (3-25-26)

TASK	DESCRIPTION	HOURS	HOURS	HOURS	HOURS	HOURS	Direct Cost
	MOT Plans	24					
	MOT Details	12					
	Lake County Standards	19					
	IDOT Highway Standards	18					
	IDOT District 1 Standards	2					
	Base Sheet Cutting	62					
	Estimate of Cost and Estimate of Time	16					
	Specification Books	40					
	Non-Standard LCDOT SPs and LCDOT Standard Coordination	12					
	Milestone Submittal Packaging	40					
	Sub-Total Task 4 =	**1053**	**0**	**0**	**0**	**0**	

5	**Right-of-Way Services**	**Benesch**	**Bravo**	**GSG**	**GZA**	**Mathewson**	**Direct Cost ESTIMATE**
	ROW evaluation support and coordination with Mathewson	16					
	ROW evaluation assistance (Mathewson)					180	
	Sub-Total Task 5 =	**16**	**0**	**0**	**0**	**180**	

6	**Traffic and Safety Analysis**	**Benesch**	**Bravo**	**GSG**	**GZA**	**Mathewson**	**Direct Cost ESTIMATE**
	Existing Traffic and Safety Analysis						
	Obtain traffic data (6 intersections - 72 hour weekday counts, Tues.-Thurs. at each location). Reduce data into a usable format.	48					$14,805 - Traffic Counts
	Traffic volume development	80					
	Traffic analysis - Synchro - evaluate corridor: existing configuration and traffic, no-build future traffic (AM/PM peak periods) (4 models @ 48 hrs/model)	192					
	Obtain, compile and summarize crash data for past 5 years within intersection improvement limits (assumes GIS-based collision diagrams)	40					
	Crash report review for fatality/serious crashes (up to 10 crash reports) @ 2 hrs/report	20					
	Safety Analysis - HSS and HSM - 2 no-build alternatives	40					
	Speed Study	40					$1,300 - Speed Data
	Traffic Signal Warrant Analysis (6 intersections)	72					
	Prepare and submit Traffic and Safety Technical Memorandum	120					
	Proposed Traffic and Safety Analysis						
	Traffic analysis - Synchro - evaluate 10 intersection alternatives (AM/PM peak periods) (20 models @ 8 hrs/model)	160					
	Traffic analysis - Sidra - 8 roundabout alternatives @ 12 hrs/alternative	96					
	Traffic analysis - Vissim - 8 roundabout alternatives @ 50 hrs/alternative	400					
	Traffic analysis - Vissim - 1 model: preferred alternative corridor, PM peak	120					
	Traffic analysis - construction staging queuing analysis for preferred alternative	100					
	Safety Analysis - HSS and HSM - Up to 6 geometric alternatives (Intersections/Segments)	60					
	Sub-Total Task 6 =	**1588**	**0**	**0**	**0**	**0**	

7	**Alternatives Analysis**	**Benesch**	**Bravo**	**GSG**	**GZA**	**Mathewson**	**Direct Cost ESTIMATE**
	Existing Conditions Assessment						
	Existing Conditions Assessment and Preparation of Exhibit	240					
	Design Criteria Matrix Development	40					
	Purpose and Need Development	24					
	Concept Alternatives Development						
	Concept typical sections for each corridor alternative (2)	32					

Lake County Division of Transportation
Bonner Road, Darrell Road to Fairfield Road - Phase I
Estimate of Hours (3-25-26)

TASK	DESCRIPTION	HOURS	HOURS	HOURS	HOURS	HOURS	Direct Cost
	Value Planning Workshop #1 with LCDOT (1 meeting, 4 hrs x 4 people, agenda, meeting minutes), In-Person	40					1 vehicle @ $65/day x 1 day = $65 $300 (Printed Materials)
	Concept feasibility and impact assessment	24					
	Concept Alternatives Recommendation Presentation	60					
	Detailed Alternatives Development						
	Alternative Analysis and 50-scale exhibits for each intersection alternative (17)	680					
	Alternative Analysis and 200-scale exhibits/strip maps for each corridor alternative (2)	240					
	Access management review	60					
	Alternative evaluation matrix development	80					
	Alternative cost estimates (planning-level)	76					
	Value Planning Workshop #2 with LCDOT (1 meeting, 4 hrs x 4 people, agenda, meeting minutes), In-Person	40					1 vehicle @ $65/day x 1 day = $65 $300 (Printed Materials)
	Value Planning Summary Report	60					
	Sub-Total Task 7 =	**1696**	**0**	**0**	**0**	**0**	

8	Geometric Design	Benesch	Bravo	GSG	GZA	Mathewson	Direct Cost ESTIMATE
	West Segment (Darrell Rd to Robert Crown Entrance)						
	Develop 50-scale plan-profile sheets (7 sheets @ 24 hours)	168					
	Typical Sections (4 Typicals @ 8 hours each)	32					
	Create 3D model for design and impacts evaluation - 7,500' total distance	95					
	Develop cross sections (every 100' plus driveway crossings = 90 sections x 2hrs each)	180					
	Prepare design variance forms (assume 8 variances @ 8 hrs/variance)	64					
	Develop conceptual maintenance of traffic plan exhibits (5 exhibits at 24 hrs/exhibit)	120					
	Develop conceptual maintenance of traffic typical sections (4 Typicals @ 8 hrs each)	32					
	Construction staging technical memorandum	40					
	IDS Plans (1 intersection)	100					
	East Segment (Robert Crown Entrance to Fairfield Rd)						
	Develop 50-scale plan-profile sheets (16 sheets @ 24 hours)	384					
	Typical Sections (8 Typicals @ 8 hours each)	64					
	ADA details at US 12 Intersection (12 ramps @ 8 hours each)	96					
	Create 3D model for design and impacts evaluation - 22,000' total distance	839					
	Develop cross sections (every 100' plus driveway crossings = 281 sections x 2hrs each)	562					
	Prepare design variance forms (assume 8 variances @ 8 hrs/variance)	64					
	Develop conceptual maintenance of traffic plan exhibits (8 exhibits at 24 hrs/exhibit)	192					
	Develop conceptual maintenance of traffic typical sections (8 Typicals @ 8 hrs each)	64					
	Construction staging technical memorandum	40					
	Traffic Management Plan for Rand Road (US 12) and Bonner Road	80					
	IDS Plans (4 intersections)	340					
	Sub-Total Task 8 =	**3556**	**0**	**0**	**0**	**0**	

9	Environmental Studies	Benesch	Bravo	GSG	GZA	Mathewson	Direct Cost ESTIMATE
	West Segment - Prepare and submit Environmental Survey Request (ESR) package of forms and exhibits. Includes exhibit and resource database reviews (HARGIS, wetlands, etc.) Address LCDOT comments and resubmit if required.	36					
	East Segment - Prepare and submit Environmental Survey Request (ESR) package of forms and exhibits. Includes exhibit and resource database reviews (HARGIS, wetlands, photo log, etc.) Address LCDOT comments and resubmit if required.	88					
	Environmental studies support and oversight	32					
	Wetland and Waterway Delineation (GZA)				45		See subconsultant attachments for cost ($149)

Lake County Division of Transportation
Bonner Road, Darrell Road to Fairfield Road - Phase I
Estimate of Hours (3-25-26)

TASK	DESCRIPTION	HOURS	HOURS	HOURS	HOURS	HOURS	Direct Cost
	Wetland Report (GZA)	8			47		See subconsultant attachments for cost ($140)
	Preliminary Jurisdictional Determination/Boundary Verification (GZA)				8		See subconsultant attachments for cost ($75)
	Wetland Impact Evaluation (WIE) (GZA)	4			6		See subconsultant attachments for cost
	Tree Survey and Bat Assessment (GZA)				108		See subconsultant attachments for cost ($447)
	Tree Survey Report (GZA)	8			45		See subconsultant attachments for cost
	PESA (GSG)	12		208			See subconsultant attachments for cost ($1,380)
	Preparation of 4(f) de minimus report, including exhibits and coordination of letter of concurrence from LCFPD	80					
	QA/QC and Project Admin/Management (GZA)				13		See subconsultant attachments for cost
	QA/QC and Project Admin/Management (GSG)			24			
	Section 106 and/or Section 107 Cultural Resources Review - Structure						
	Historic field work and determination of eligibility report preparation	56					
	Review and coordination	20					Airfare ($400) + car rental ($100) + per diem ($125) + hotel ($150) = $775 (For one meeting attendance)
	Project mapping and determination of effects report (not required if structure is not NR-eligible)	52					
	Sub-Total Task 9 =	**396**	**0**	**232**	**272**	**0**	

10	Drainage Studies	Benesch	Bravo	GSG	GZA	Mathewson	Direct Cost ESTIMATE
	IDOT Coordination	20					
	Field Drain Tile Survey						
	Drainage Investigation, Equipment Mobilization, Record Mapping and Report	4					$24,415 - Drain/Field Tile Survey
	Existing Drainage System						
	Field Tile Inspections - Included in Field Survey Task and Benesch Data Review Task for site - Review inspection reports	8					
	Define existing drainage patterns and drainage areas (12 outlets 8 hours per outlet)	96					
	Create ORD base files with storm sewers and underground structures (12 outlets 8 hours per outlet)	96					
	Identify drainage problems	16					
	Determine existing roadway discharges, modeled in ORD SUDA (12 outlets 8 hrs/outlet)	96					
	Create General Location Drainage Map	16					
	Create Existing Drainage Plans (EDP) (19 sheets, 50 scale, 12 hrs/sheet)	228					
	Review of EDP - Address EDP comments, dispositions, resubmittal	16					
	Proposed Drainage System						
	Design criteria	8					
	Outlet evaluation (12 outlets, 8 hrs/outlet)	96					
	Stormwater detention analysis (12 outlets 4hrs/outlet)	48					
	Detention pond calculations and analysis (4 ponds 20 hours per pond)	80					
	Detention modeling in ORD (4 ponds 20 hours per pond)	80					
	ROW impact analysis	40					
	Drainage Alternatives (3 alternatives 16 hrs/alt)	48					
	Qualitative analysis of concepts and recommendation of preferred drainage alternative	20					
	Creation of ORD bases files. (12 outlets 8 hours per outlet)	96					
	Determine proposed roadway discharges, modeled in ORD SUDA (12 outlets 8 hrs/outlet)	96					
	Creation of proposed drainage plan and profile sheets (PDP) (19 sheets, 50 scale, 12 hrs/sheet)	228					
	Ditch Sizing (18 ditches 8hr per ditch)	144					
	Ditch modeling in ORD (18 ditches 8 hr per ditch)	144					
	Creation of proposed terrain file	20					
	Determine water quality and BMP practices	20					

Lake County Division of Transportation
Bonner Road, Darrell Road to Fairfield Road - Phase I
Estimate of Hours (3-25-26)

TASK	DESCRIPTION	HOURS	HOURS	HOURS	HOURS	HOURS	Direct Cost
	Review of PDP - Address PDP comments, dispositions, resubmittal	16					
	Hydraulic Analysis (Three minor culvert crossings to be included in LDTM)						
	Hydrologic analysis in StreamStats (4 hrs per culvert)	12					
	Culvert Modeling in HY-8 (8 hrs per culvert)	24					
	Review of hydraulic analysis - Address comments, dispositions, resubmittal	8					
	Location Drainage Technical Memorandum (LDTM) - West Segment (Robert Crown to Fairfield)						
	Draft LDTM to Lake County	60					
	Lake County LDTM review meeting (1 meeting x 2 people x 4 hours); 2 hours minutes, In-Person	10					1 vehicle @ $65/day x 1 visit = $65
	Final LDTM	20					
	Location Drainage Study (LDS) - East Segment (Robert Crown to Fairfield)						
	Draft LDS to Lake County	60					
	Lake County LDS review meeting (1 meeting x 2 people x 4 hours); 2 hours minutes, In-Person	10					1 vehicle @ $65/day x 1 visit = $65
	Draft LDS to IDOT	20					
	IDOT LDS review meeting (1 meeting x 2 people x 4 hours); 2 hours minutes, Virtual	10					
	Final LDS	20					
	Sub-Total Task 10 =	**2034**	**0**	**0**	**0**	**0**	

11	Geotechnical Services	Benesch	Bravo	GSG	GZA	Mathewson	Direct Cost ESTIMATE
	Geotechnical coordination - mobilization coordination with LCDOT, provide exhibits and location direction for boring operations, review geotechnical report	16					
	Geotechnical - Subsurface Exploration			168			See subconsultant attachments for cost ($79,252)
	Geotechnical - Analysis and Report			280			See subconsultant attachments for cost
	QA/QC and Project Coordination/Management (GSG)			28			
	Sub-Total Task 11 =	**16**	**0**	**448**	**0**	**0**	

12	Public Involvement	Benesch	Bravo	GSG	GZA	Mathewson	Direct Cost ESTIMATE
	Develop and Update Stakeholder Involvement Plan (SIP)	80					
	Develop Corridor Advisory Group (CAG)	24					
	Website material coordination with LCDOT (4 hrs/month @ 24 months)	96					
	Translation Services - Spanish	24					$7500 - Spanish translation
	Virtual Public Forum						
	Virtual Public Forum initial project materials (including advertisement and postcards)	80					Postcards ($300) + Publication ($500) = $800
	Virtual Public Forum public outreach, FAQ, and comment response preparation	40					
	Key Stakeholder Coordination						
	Individual stakeholder meetings - up to 20 (20 meetings, 4 hrs, 2 people)	160					1 vehicle @ $65/day x 20 meetings = $1300
	Individual stakeholder materials preparation (exhibits, handouts, meeting materials, summaries, email correspondence)	160					$400 (Printed Materials/Mailing)
	Corridor Advisory Group Meeting 1						
	Exhibits, handouts, meeting materials	40					
	Meeting attendance (1 meeting x 6 hrs x 4 people), In-Person	24					1 vehicle @ $65/day x 1 day = $65
	Follow-up Summary and comment responses	16					
	Corridor Advisory Group Meeting 2						
	Exhibits, handouts, meeting materials	40					
	Meeting attendance (1 meeting x 6 hrs x 4 people), In-Person	24					1 vehicle @ $65/day x 1 day = $65
	Follow-up Summary and comment responses	16					
	Public Meeting 1						A/V Equipment ($1000) + facility Rental ($3000) = $4000

Lake County Division of Transportation
Bonner Road, Darrell Road to Fairfield Road - Phase I
Estimate of Hours (3-25-26)

TASK	DESCRIPTION	HOURS	HOURS	HOURS	HOURS	HOURS	Direct Cost
	Exhibits, handouts, meeting materials, prepare newspaper ads	120					Postcards ($300) + Publication ($500) + Exhibits/Handouts ($3,000) = $3,800
	Project Video	120					$6600 Video processing and graphics support
	Meeting Dry Run, In-Person	24					
	Meeting attendance (1 meeting x 6 hrs x 4 people), In-Person	24					1 vehicle @ $65/day x 1 day = $65
	Follow-up Summary and comment responses (up to 20 standard comments)	48					$150 (Printed/Mailed Responses)
	Public Meeting 2						A/V Equipment ($1000) + facility Rental ($3000) = $4000
	Exhibits, handouts, meeting materials, prepare newspaper ads	120					Postcards ($300) + Publication ($500) + Exhibits/Handouts ($3,000) = $3,800
	Preparation of public official notification and property impact letters along with property impact exhibits (up to 175 letters x 2 hrs/letter)	350					$500 (Printed/Mailed Letters and Exhibits)
	Proposed Improvement Video	240					$6600 Video processing and graphics support
	Meeting Dry Run, In-Person	24					
	Meeting attendance (1 meeting x 6 hrs x 4 people), In-Person	24					1 vehicle @ $65/day x 1 day = $65
	Follow-up Summary and comment responses (up to 20 standard comments)	48					$150 (Printed/Mailed Responses)
	Sub-Total Task 12 =	**1966**	**0**	**0**	**0**	**0**	

13	Project Development Report	Benesch	Bravo	GSG	GZA	Mathewson	Direct Cost ESTIMATE
	West Segment - Local PDR Report						
	Narrative	32					
	Exhibits and Compilation	60					
	Cost Estimate	32					
	East Segment - PDR Report (BLR 22210)						
	Draft PDR Report						$100 (Printing/Binding/Delivery to IDOT)
	Narrative	40					
	Exhibits and Compilation	60					
	Cost Estimate	48					
	Final PDR Report	80					$100 (Printing/Binding/Delivery to IDOT)
	Corridor Cost Breakouts and Funding Support	40					
	Sub-Total Task 13 =	**392**	**0**	**0**	**0**	**0**	

14	Agency Coordination and Meetings	Benesch	Bravo	GSG	GZA	Mathewson	Direct Cost ESTIMATE
	Initial kick-off meeting with Lake County Division of Transportation - In-Person (1 meeting x 4 hrs x 3 people, agenda, and meeting minutes)	16					1 vehicle @ $65/day x 1 meeting = $65
	Design review/coordination meetings with LCDOT - Virtual (one per month x 30 months; 1 meeting x 2 hrs x 2 people and meeting minutes)	120					
	IDOT BLRS Kickoff Meeting - Virtual (1 meeting x 2 hrs x 3 people, agenda, meeting minutes)	10					
	IDOT Permits Meeting - Virtual (1 meeting x 2 hrs x 3 people, agenda, meeting minutes)	10					
	IDOT Geometrics Meetings - Virtual (2 meetings x 2 hrs x 3 people, agenda, meeting minutes)	20					
	IDOT/FHWA Meeting - Virtual (1 meeting x 2 hrs x 3 people, agenda, meeting minutes)	10					
	Preferred Alternative Evaluation Meeting with LCDOT - In-Person (1 meeting x 4 hrs x 3 people, agenda, and meeting minutes)	18					1 vehicle @ $65/day x 1 meeting = $65
	SUE Study Coordination Meeting with LCDOT - Virtual (1 meeting x 2 hrs x 3 people, agenda, meeting minutes)	10					
	SUE Utility Company Coordination Meetings - In-Person (6 meetings x 4 hrs x 3 people, agenda, meeting minutes)	90					1 vehicle @ $65/day x 6 meetings = $390
	Drainage kickoff meeting (1 meeting x 2 people x 8 hours, agenda, meeting minutes), In-Person	18					1 vehicle @ $65/day x 1 meeting = $65

Lake County Division of Transportation
Bonner Road, Darrell Road to Fairfield Road - Phase I
Estimate of Hours (3-25-26)

TASK	DESCRIPTION	HOURS	HOURS	HOURS	HOURS	HOURS	Direct Cost
	Drainage stakeholder meeting (1 meeting x 2 people x 8 hours, agenda, meeting minutes), In-Person	18					1 vehicle @ $65/day x 1 meeting = $65
	Coordination meeting with the Village of Wauconda - In-Person (1 meeting x 4 hrs x 3 people and meeting minutes)	18					1 vehicle @ $65/day x 1 meeting = $65
	Coordination meeting with Wauconda Township - In-Person (1 meeting x 4 hrs x 3 people and meeting minutes)	18					1 vehicle @ $65/day x 1 meeting = $65
	Environmental Permitting Meetings - LCSMC, USACE - Virtual (2 meetings x 2 hrs x 3 people and meeting minutes)	20					
	Coordination meetings with Lake County Forest Preserves - Virtual (2 meetings x 2 hrs x 3 people and meeting minutes)	18					
	Up to 5 additional agency coordination meetings as needed - In-Person (5 meetings x 4 hrs x 3 people, meeting minutes)	80					1 vehicle @ $65/day x 5 meetings = $325
	Miscellaneous Coordination (CMAP, Stakeholders, Others)	28					
	Sub-Total Task 14 =	**522**	**0**	**0**	**0**	**0**	

15	**Project Management and Administration**	Benesch	Bravo	GSG	GZA	Mathewson	Direct Cost ESTIMATE
	Project Setup (schedule, contracts, and files)	40					
	Project administration, management and general coordination (8 hrs per month x 30 months)	240					
	Project invoice and scope creep log preparation and updates (2 hrs per month x 30 months)	60					
	Sub-Total Task 15 =	**340**	**0**	**0**	**0**	**0**	

16	**Quality Assurance / Quality Control (QA/QC) and project documentation**	Benesch	Bravo	GSG	GZA	Mathewson	Direct Cost ESTIMATE
	Quality Management Plan (QMP)	16					
	QA/QC (4% of total hours)	590					
	Sub-Total Task 16 =	**606**	**0**	**0**	**0**	**0**	

	Totals	**15341**	**1000**	**680**	**272**	**180**	

Illinois Department of Transportation

EXHIBIT D

COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

FIXED RAISE

Local Public Agency	County	Section Number
Lake County Division of Transportation	Lake	25-00999-17-WR
Prime Consultant (Firm) Name	**Prepared By**	**Date**
Alfred Benesch & Company	Ryan Jacox	2/16/2026
Consultant / Subconsultant Name	**Job Number**	
Alfred Benesch & Company		

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

Remarks

Bonner Road, Darrell Road to Fairfield Road - Phase I

PAYROLL ESCALATION TABLE

CONTRACT TERM	30	MONTHS	OVERHEAD RATE	163.31%
START DATE	5/15/2026		COMPLEXITY FACTOR	0
RAISE DATE	1/1/2027		% OF RAISE	3.00%
END DATE	11/14/2028			

ESCALATION PER YEAR

Year	First Date	Last Date	Months	% of Contract
0	5/15/2026	1/1/2027	8	26.67%
1	1/2/2027	1/1/2028	12	41.20%
2	1/2/2028	11/1/2028	10	35.36%

The total escalation = 3.23%

Local Public Agency	County	Section Number
Lake County Division of Transportation	Lake	25-00999-17-WR

Consultant / Subconsultant Name	Job Number
Alfred Benesch & Company	

PAYROLL RATES

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

MAXIMUM PAYROLL RATE	90.00
ESCALATION FACTOR	3.23%

JOB SPECIFIC - Classifications and Average Payrates need to match current payrolls submitted to the Department.

CLASSIFICATION	IDOT AVG PAYROLL RATES ON FILE	CALCULATED RATE
Division Manager	$90.00	$90.00
Group Manager	$90.00	$90.00
Sr Project Manager	$88.17	$90.00
Project Manager II	$80.44	$83.04
Project Manager I	$68.17	$70.37
Sr Technical Specialist	$61.50	$63.49
Technical Manager II	$76.33	$78.80
Technical Manager I	$65.10	$67.20
Project Engineer II	$56.38	$58.20
Project Engineer I	$51.00	$52.65
Senior Designer	$55.00	$56.78
Designer II	$46.94	$48.46
Designer I	$39.64	$40.92
Planner I	$34.50	$35.61
Technical Specialist I	$34.50	$35.61
Sr Technologist	$60.00	$61.94
Technologist III	$48.50	$50.07
Technologist II	$43.50	$44.91
Survey Manager	$69.60	$71.85
Survey Specialist II	$51.80	$53.47
Construction Project Manager II	$76.36	$78.83
Project Analyst	$52.00	$53.68
Project Assistant II	$37.20	$38.40

Local Public Agency	County	Section Number
Lake County Division of Transportation	Lake	25-00999-17-WR
Consultant / Subconsultant Name		**Job Number**
Alfred Benesch & Company		

SUBCONSULTANTS

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

NAME	Direct Labor Total (Payroll Only)	Contribution to Prime Consultant
Bravo Company Engineering	49,146.00	4,914.60
GSG Consultants, Inc	35,862.00	3,586.20
GZA Illinois, Inc.	11,074.00	1,107.40
Total	**96,082.00**	**9,608.20**

NOTE: Only subconsultants who fill out a cost estimate that splits out direct labor may be listed on this sheet.

Local Public Agency
Lake County Division of Transportation

County
Lake

Section Number
25-00999-17-WR

Consultant / Subconsultant Name
Alfred Benesch & Company

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
Per Diem (per Federal GSA)	Up to federal maximum	1	$125.00	$125.00
Lodging (per Federal GSA)	Actual Cost (Up to Federal rate maximum)	1	$150.00	$150.00
Lodging Taxes and Fees (per Federal GSA)	Actual Cost			$0.00
Air Fare	Coach rate, actual cost, requires minimum two weeks' notice, with prior IDOT approval	1	$400.00	$400.00
Vehicle Mileage (per Federal GSA)	Up to Federal rate maximum			$0.00
Vehicle Owned or Leased (no mileage charge allowed)	$32.50/half day (4 hours or less) or $65/full day	125	$65.00	$8,125.00
Vehicle Rental	Actual Cost (Up to $55/day)	1	$100.00	$100.00
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)	8900	$1.00	$8,900.00
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)	3	$500.00	$1,500.00
Public Meeting Facility Rental	Actual Cost (Submit supporting documentation)	2	$3,000.00	$6,000.00
Public Meeting Exhibits/Renderings & Equipment	Actual Cost (Submit supporting documentation)	2	$7,600.00	$15,200.00
Recording Fees	Actual Cost	1	$150.00	$150.00
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)	1	$16,105.00	$16,105.00
Existing Condition (Ecopia)	Actual Cost	1	$660.00	$660.00
Land Drainage Investigation Services	Actual Cost	1	$24,415.00	$24,415.00
Translation	Actual Cost	1	$7,500.00	$7,500.00
			TOTAL DIRECT COSTS:	**$89,330.00**

Local Public Agency
Lake County Division of Transportation

County
Lake

Section Number
25-00999-17-WR

Consultant / Subconsultant Name
Alfred Benesch & Company

Job Number

COST ESTIMATE WORKSHEET

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

OVERHEAD RATE 163.31%

COMPLEXITY FACTOR 0

TASK	DIRECT COSTS (not included in row totals)	MANHOURS	PAYROLL	OVERHEAD & FRINGE BENEFITS	FIXED FEE	SERVICES BY OTHERS	TOTAL	% OF GRAND TOTAL
Data Collection	1,115	260	14,667	23,953	4,840		44,575	1.36%
Design Survey	4,895	772	44,442	72,578	14,666		136,581	4.18%
Utility Coordination		128	7,221	11,793	2,383		21,397	0.65%
Minimum Maintenance Resurfacing Design Plans and Contract Docum		1053	58,335	95,267	19,251		172,853	5.29%
Right of Way Services		16	935	1,527	308		2,770	0.08%
Traffic and Safety Analysis	16,105	1588	92,651	151,308	30,575		290,639	8.89%
Alternatives Analysis	730	1696	99,250	162,085	32,752		294,817	9.02%
Geometric Design		3556	196,936	321,616	64,989		583,541	17.86%
Environmental Studies	775	396	23,590	38,525	7,785		70,675	2.16%
Drainage Studies	24,545	2034	122,369	199,841	40,382		387,137	11.85%
Geotechnical Services		16	891	1,455	294		2,640	0.08%
Public Involvement	39,860	1966	123,412	201,544	40,726		405,542	12.41%
Project Development Report	200	392	23,789	38,850	7,850		70,689	2.16%
Agency Coordination and Meetings	1,105	522	37,206	60,761	12,278		111,350	3.41%
Project Management and Administration		340	29,416	48,040	9,707		87,163	2.67%
Quality Assurance / Quality Control (QA/QC) and project documentatic		606	49,931	81,543	16,477		147,951	4.53%
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
Bravo Company Engineering			-	-	-	151,548	151,548	4.64%
GSG Consultants, Inc			-	-	-	174,437	174,437	5.34%
GZA Illinois, Inc.			-	-	-	35,958	35,958	1.10%
Mathewson Land Services, Inc.			-	-	-	66,000	66,000	2.02%
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
			-	-	-		-	
Subconsultant DL					9,608.00		$9,608.00	0.29%
TOTALS	89,330	15341	925,041	1,510,686	314,871	427,943	3,267,871	100.00%

Fixed fee is limited to the lower of the calculated amount or 15%

The subconsultant fee has been adjusted due to 15% fixed fee

Local Public Agency
Lake County Division of Transportation

County
Lake

Section Number
25-00999-17-WR

Consultant / Subconsultant Name
Alfred Benesch & Company

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			Data Collection			Design Survey			Utility Coordination			Resurfacing Design Plans and Contract Documents			Right of Way Services		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Division Manager	90.00	0.0																	
Group Manager	90.00	0.0																	
Sr Project Manager	90.00	857.0	5.59%	5.03	5	1.92%	1.73				4	3.13%	2.81	17	1.61%	1.45			
Project Manager II	83.04	2,271.0	14.80%	12.29	28	10.77%	8.94				20	15.63%	12.97	115	10.92%	9.07	3	18.75%	15.57
Project Manager I	70.37	749.0	4.88%	3.44										73	6.93%	4.88			
Sr Technical Specialist	63.49	0.0																	
Technical Manager II	78.80	548.0	3.57%	2.81															
Technical Manager I	67.20	97.0	0.63%	0.42															
Project Engineer II	58.20	2,204.0	14.37%	8.36	30	11.54%	6.72							141	13.39%	7.79	4	25.00%	14.55
Project Engineer I	52.65	2,020.0	13.17%	6.93	28	10.77%	5.67				48	37.50%	19.74	93	8.83%	4.65	4	25.00%	13.16
Senior Designer	56.78	58.0	0.38%	0.21	58	22.31%	12.67												
Designer II	48.46	3,176.0	20.70%	10.03	111	42.69%	20.69				52	40.63%	19.69	205	19.47%	9.43	5	31.25%	15.14
Designer I	40.92	1,386.0	9.03%	3.70										205	19.47%	7.97			
Planner I	35.61	0.0																	
Technical Specialist I	35.61	0.0																	
Sr Technologist	61.94	604.0	3.94%	2.44										90	8.55%	5.29			
Technologist III	50.07	0.0																	
Technologist II	44.91	501.0	3.27%	1.47										114	10.83%	4.86			
Survey Manager	71.85	172.0	1.12%	0.81				172	22.28%	16.01									
Survey Specialist II	53.47	600.0	3.91%	2.09				600	77.72%	41.56									
Construction Project Manag	78.83	7.0	0.05%	0.04															
Project Analyst	53.68	0.0																	
Project Assistant II	38.40	91.0	0.59%	0.23							4	3.13%	1.20						
		0.0																	
		0.0																	
		0.0																	
		0.0																	
TOTALS		15341.0	100%	$60.30	260.0	100.00%	$56.41	772.0	100%	$57.57	128.0	100%	$56.42	1053.0	100%	$55.40	16.0	100%	$58.42

Local Public Agency
Lake County Division of Transportation

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Lake

Section Number
25-00999-17-WR

Consultant / Subconsultant Name
Alfred Benesch & Company

Job Number

AVERAGE HOURLY PROJECT RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Traffic and Safety Analysis			Alternatives Analysis			Geometric Design			Environmental Studies			Drainage Studies			Geotechnical Services		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Division Manager	90.00																		
Group Manager	90.00																		
Sr Project Manager	90.00	17	1.07%	0.96	18	1.06%	0.96	57	1.60%	1.44	8	2.02%	1.82	50	2.46%	2.21	2	12.50%	11.25
Project Manager II	83.04	273	17.19%	14.28	275	16.21%	13.46	387	10.88%	9.04	71	17.93%	14.89	140	6.88%	5.72			
Project Manager I	70.37							246	6.92%	4.87				84	4.13%	2.91			
Sr Technical Specialist	63.49																		
Technical Manager II	78.80													474	23.30%	18.36			
Technical Manager I	67.20																		
Project Engineer II	58.20	358	22.54%	13.12	409	24.12%	14.04	477	13.41%	7.81	95	23.99%	13.96	173	8.51%	4.95	8	50.00%	29.10
Project Engineer I	52.65	358	22.54%	11.87	407	24.00%	12.63	313	8.80%	4.63	87	21.97%	11.57	173	8.51%	4.48			
Senior Designer	56.78																		
Designer II	48.46	540	34.01%	16.48	504	29.72%	14.40	692	19.46%	9.43	111	28.03%	13.58	614	30.19%	14.63			
Designer I	40.92							692	19.46%	7.96				292	14.36%	5.87	6	37.50%	15.35
Planner I	35.61																		
Technical Specialist I	35.61																		
Sr Technologist	61.94	42	2.64%	1.64	83	4.89%	3.03	305	8.58%	5.31	24	6.06%	3.75	34	1.67%	1.04			
Technologist III	50.07																		
Technologist II	44.91							387	10.88%	4.89									
Survey Manager	71.85																		
Survey Specialist II	53.47																		
Construction Project Manage	78.83																		
Project Analyst	53.68																		
Project Assistant II	38.40																		
TOTALS		1588.0	100%	$58.34	1696.0	100%	$58.52	3556.0	100%	$55.38	396.0	100%	$59.57	2034.0	100%	$60.16	16.0	100%	$55.70

Local Public Agency
Lake County Division of Transportation

County
Lake

Section Number
25-00999-17-WR

Consultant / Subconsultant Name
Alfred Benesch & Company

Job Number

AVERAGE HOURLY PROJECT RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

SHEET 3 OF 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Public Involvement			Project Development Report			Agency Coordination and Meetings			Project Management and Administration			Quality Assurance / Quality Control (QA/QC) and project documentation					
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Division Manager	90.00																		
Group Manager	90.00																		
Sr Project Manager	90.00	146	7.43%	6.68	9	2.30%	2.07	140	26.82%	24.14	170	50.00%	45.00	214	35.31%	31.78			
Project Manager II	83.04	346	17.60%	14.61	89	22.70%	18.85	140	26.82%	22.27	170	50.00%	41.52	214	35.31%	29.32			
Project Manager I	70.37	346	17.60%	12.38															
Sr Technical Specialist	63.49																		
Technical Manager II	78.80													74	12.21%	9.62			
Technical Manager I	67.20													97	16.01%	10.76			
Project Engineer II	58.20	337	17.14%	9.98	82	20.92%	12.17	90	17.24%	10.03									
Project Engineer I	52.65	337	17.14%	9.02	82	20.92%	11.01	90	17.24%	9.08									
Senior Designer	56.78																		
Designer II	48.46	191	9.72%	4.71	89	22.70%	11.00	62	11.88%	5.76									
Designer I	40.92	191	9.72%	3.98															
Planner I	35.61																		
Technical Specialist I	35.61																		
Sr Technologist	61.94				26	6.63%	4.11												
Technologist III	50.07																		
Technologist II	44.91																		
Survey Manager	71.85																		
Survey Specialist II	53.47																		
Construction Project Manager	78.83																		
Project Analyst	53.68													7	1.16%	0.91			
Project Assistant II	38.40	72	3.66%	1.41	15	3.83%	1.47												
TOTALS		1966.0	100%	$62.77	392.0	100%	$60.69	522.0	100%	$71.28	340.0	100%	$86.52	606.0	100%	$82.40	0.0	0%	$0.00

Illinois Department of Transportation

EXHIBIT D

COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

FIXED RAISE

Local Public Agency	County	Section Number
Lake County DOT	Lake	

Prime Consultant (Firm) Name	Prepared By	Date
Benesch	J. Novak	11/18/2025

Consultant / Subconsultant Name	Job Number
GZA Illinois	

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	24	MONTHS
START DATE	3/10/2026	
RAISE DATE	3/1/2026	
END DATE	3/9/2028	

OVERHEAD RATE	184.39%
COMPLEXITY FACTOR	0
% OF RAISE	3.00%

ESCALATION PER YEAR

Year	First Date	Last Date	Months	% of Contract
0	3/10/2026	3/1/2026	0	0.00%
1	3/2/2026	3/1/2027	12	51.50%
2	3/2/2027	3/1/2028	12	53.05%

The total escalation = 4.55%

Local Public Agency	County	Section Number
Lake County DOT	Lake	

Consultant / Subconsultant Name	Job Number
GZA Illinois	

PAYROLL RATES

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

MAXIMUM PAYROLL RATE	90.00
ESCALATION FACTOR	4.55%

JOB SPECIFIC - Classifications and Average Payrates need to match current payrolls submitted to the Department.

CLASSIFICATION	IDOT AVG PAYROLL RATES ON FILE	CALCULATED RATE
Principal	$90.00	$90.00
Associate Principal II	$78.91	$82.50
Associate Principal I	$72.41	$75.70
Senior Consultant II	$70.00	$73.18
Senior Consultant I	$64.97	$67.92
Senior Project Manager III	$75.84	$79.29
Senior Project Manager II	$63.84	$66.74
Senior Project Manager I	$59.95	$62.67
Senior Landscape Architect	$63.40	$66.28
Senior Planning PM	$61.44	$64.23
Senior Technical Specialist II	$63.69	$66.58
Scientist PM II	$54.41	$56.88
Scientist PM I	$47.56	$49.72
Assistant PM Scientist	$39.04	$40.81
Environmental Engineer PM II	$52.00	$54.36
Environmental Engineer PM I	$48.90	$51.12
Geotechnical Engineer PM I	$52.74	$55.14
Assistant PM Engineer I	$41.12	$42.99
Engineer I	$37.27	$38.96
Engineer II	$32.70	$34.19
Scientist SI	$35.30	$36.90
Scientist SII	$31.77	$33.21
Technical Graphics Technician	$29.42	$30.76
Architectural Historian	$44.36	$46.38
Administrative Executive	$54.99	$57.49
Administrative Manager	$46.97	$49.10
Senior Administrative Assistant	$37.90	$39.62

Local Public Agency	County	Section Number
Lake County DOT	Lake	
Consultant / Subconsultant Name		**Job Number**
GZA Illinois		

SUBCONSULTANTS

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

NAME	Direct Labor Total (Payroll Only)	Contribution to Prime Consultant
Total	**0.00**	**0.00**

NOTE: Only subconsultants who fill out a cost estimate that splits out direct labor may be listed on this sheet.

Local Public Agency
Lake County DOT

County
Lake

Section Number

Consultant / Subconsultant Name
GZA Illinois

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
Per Diem (per Federal GSA)	Up to federal maximum			$0.00
Lodging (per Federal GSA)	Actual Cost (Up to Federal rate maximum)			$0.00
Lodging Taxes and Fees (per Federal GSA)	Actual Cost			$0.00
Air Fare	Coach rate, actual cost, requires minimum two weeks' notice, with prior IDOT approval			$0.00
Vehicle Mileage (per Federal GSA)	Up to Federal rate maximum	765	$0.70	$535.50
Vehicle Owned or Leased (no mileage charge allowed)	$32.50/half day (4 hours or less) or $65/full day		$90.00	$0.00
Vehicle Rental	Actual Cost (Up to $55/day)			$0.00
Tolls	Actual Cost	54	$2.50	$135.00
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)	14	$10.00	$140.00
Utliity 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
				$0.00
				$0.00
				$0.00
			TOTAL DIRECT COSTS:	**$810.50**

Local Public Agency
Lake County DOT

County
Lake

Section Number

Consultant / Subconsultant Name
GZA Illinois

Job Number

COST ESTIMATE WORKSHEET

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

OVERHEAD RATE 184.39%

COMPLEXITY FACTOR 0

TASK	DIRECT COSTS (not included in row totals)	MANHOURS	PAYROLL	OVERHEAD & FRINGE BENEFITS	FIXED FEE	SERVICES BY OTHERS	TOTAL	% OF GRAND TOTAL
Wetland and Waterway Delineation	149	45	1,937	3,571	639	0	6,296	17.51%
Wetland Report	140	47	1,868	3,444	616	0	6,068	16.88%
Preliminary JD/BV	75	8	398	733	131	0	1,337	3.72%
Wetland Impact Evaluation	0	6	221	408	73	0	702	1.95%
Tree Survey	447	108	4,049	7,467	1,336	0	13,299	36.99%
Tree Survey Report	0	45	1,742	3,212	575	0	5,529	15.38%
Project QA/QC	0	6	466	859	154	0	1,479	4.11%
Project Admin/Mgmt	0	7	393	725	130	0	1,248	3.47%
			-	-	-		-	
			-	-	-		-	
Subconsultant DL					0.00			
TOTALS	811	272	11,074	20,419	3,654	-	35,958	100.00%

Local Public Agency
Lake County DOT

County
Lake

Section Number

Consultant / Subconsultant Name
GZA Illinois

Job Number

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

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJ. RATES			Wetland and Waterway Delineation			Wetland Report			Preliminary JD/BV			Wetland Impact Evaluation			Tree Survey		
		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	90.00	0.0																	
Associate Principal II	82.50	6.0	2.21%	1.82															
Associate Principal I	75.70	0.0																	
Senior Consultant II	73.18	0.0																	
Senior Consultant I	67.92	15.0	5.51%	3.75				3	6.38%	4.34							8	7.41%	5.03
Senior Project Manager III	79.29	0.0																	
Senior Project Manager II	66.74	0.0																	
Senior Project Manager I	62.67	0.0																	
Senior Landscape Architect	66.28	0.0																	
Senior Planning PM	64.23	0.0																	
Senior Technical Specialist II	66.58	0.0																	
Scientist PM II	56.88	0.0																	
Scientist PM I	49.72	41.0	15.07%	7.49	22	48.89%	24.31	6	12.77%	6.35	8	100.00%	49.72						
Assistant PM Scientist	40.81	0.0																	
Environmental Engineer PM II	54.36	0.0																	
Environmental Engineer PM I	51.12	0.0																	
Geotechnical Engineer PM I	55.14	0.0																	
Assistant PM Engineer I	42.99	0.0																	
Engineer I	38.96	0.0																	
Engineer II	34.19	0.0																	
Scientist SI	36.90	150.0	55.15%	20.35	22	48.89%	18.04	32	68.09%	25.13				6	100.00%	36.90	50	46.30%	17.09
Scientist SII	33.21	50.0	18.38%	6.11													50	46.30%	15.38
Technical Graphics Technician	30.76	8.0	2.94%	0.90	1	2.22%	0.68	6	12.77%	3.93									
Architectural Historian	46.38	0.0																	
Administrative Executive	57.49	0.0																	
Administrative Manager	49.10	0.0																	
Senior Administrative Assistant	39.62	2.0	0.74%	0.29															
TOTALS		272.0	100%	$40.71	45.0	100.00%	$43.03	47.0	100%	$39.74	8.0	100%	$49.72	6.0	100%	$36.90	108.0	100%	$37.49

Local Public Agency
Lake County DOT

County
Lake

Section Number

Consultant / Subconsultant Name
GZA Illinois

Job Number

AVERAGE HOURLY PROJECT RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Tree Survey Report			Project QA/QC			Project Admin/Mgmt											
		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	90.00																		
Associate Principal II	82.50				4	66.67%	55.00	2	28.57%	23.57									
Associate Principal I	75.70																		
Senior Consultant II	73.18																		
Senior Consultant I	67.92	2	4.44%	3.02	2	33.33%	22.64												
Senior Project Manager III	79.29																		
Senior Project Manager II	66.74																		
Senior Project Manager I	62.67																		
Senior Landscape Architect	66.28																		
Senior Planning PM	64.23																		
Senior Technical Specialist II	66.58																		
Scientist PM II	56.88																		
Scientist PM I	49.72	2	4.44%	2.21				3	42.86%	21.31									
Assistant PM Scientist	40.81																		
Environmental Engineer PM II	54.36																		
Environmental Engineer PM I	51.12																		
Geotechnical Engineer PM I	55.14																		
Assistant PM Engineer I	42.99																		
Engineer I	38.96																		
Engineer II	34.19																		
Scientist SI	36.90	40	88.89%	32.80															
Scientist SII	33.21																		
Technical Graphics Technician	30.76	1	2.22%	0.68															
Architectural Historian	46.38																		
Administrative Executive	57.49																		
Administrative Manager	49.10																		
Senior Administrative Assistant	39.62							2	28.57%	11.32									
TOTALS		45.0	100%	$38.72	6.0	100%	$77.64	7.0	100%	$56.20	0.0	0%	$0.00	0.0	0%	$0.00	0.0	0%	$0.00

Illinois Department of Transportation

EXHIBIT D

COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

FIXED RAISE

Local Public Agency	County	Section Number
LCDOTH	Lake	
Prime Consultant (Firm) Name	**Prepared By**	**Date**
Benesch	Min Zhang	11/19/2025
Consultant / Subconsultant Name	**Job Number**	
GSG Consultants, Inc.		

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	24	MONTHS
START DATE	3/10/2026	
RAISE DATE	12/31/2026	
END DATE	3/9/2028	

OVERHEAD RATE	128.57%
COMPLEXITY FACTOR	0
% OF RAISE	3.00%

ESCALATION PER YEAR

Year	First Date	Last Date	Months	% of Contract
0	3/10/2026	12/31/2026	10	41.67%
1	1/1/2027	12/31/2027	12	51.50%
2	1/1/2028	2/29/2028	2	8.84%

The total escalation = 2.01%

Local Public Agency	County	Section Number
LCDOTH	Lake	

Consultant / Subconsultant Name	Job Number
GSG Consultants, Inc.	

PAYROLL RATES

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

MAXIMUM PAYROLL RATE	90.00
ESCALATION FACTOR	2.01%

CLASSIFICATION	IDOT PAYROLL RATES ON FILE	CALCULATED RATE
Principal	$90.00	$90.00
Senior Project Manager	$88.63	$90.00
Project Manager	$70.70	$72.12
Assistant Project Manager	$54.62	$55.72
Senior Engineer II	$64.00	$65.28
Senior Engineer I	$57.20	$58.35
Project Engineer II	$52.79	$53.85
Project Engineer I	$46.03	$46.95
Staff Engineer II	$40.05	$40.85
Staff Engineer I	$33.77	$34.45
Senior Inspector	$63.06	$64.33
Inspector II	$42.63	$43.49
Inspector I	$35.25	$35.96
Senior Environmental Scientist	$53.32	$54.39
Environmental Scientist II	$38.55	$39.32
Environmental Scientist I	$31.55	$32.18
CAD Designer	$32.58	$33.23
Project Control	$56.16	$57.29
Document Control	$40.15	$40.96
Field Technician	$28.50	$29.07
Laboratory Technician	$27.33	$27.88
Land Surveyor	$41.00	$41.82
Administrative Support	$29.61	$30.20

Local Public Agency
LCDOTH

County
Lake

Section Number

Consultant / Subconsultant Name
GSG Consultants, Inc.

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			$0.00
Vehicle Owned or Leased	$45/half day (4 hours or less) or $90/full day	16	$90.00	$1,440.00
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)	10	$1,100.00	$11,000.00
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)	1	$7,192.00	$7,192.00
Equipment and/or Specialized Equipment Rental	Actual Cost (Requires 2-3 quotes with IDOT approval)			$0.00
Geotechnical Drilling	Actual Cost	1	$59,800.00	$59,800.00
Environment data	Actual Cost	1	$1,200.00	$1,200.00
				$0.00
				$0.00
			TOTAL DIRECT COSTS:	**$80,632.00**

Local Public Agency: LCDOTH

County: Lake

Section Number:

Consultant / Subconsultant Name: GSG Consultants, Inc.

Job Number:

COST ESTIMATE WORKSHEET

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

OVERHEAD RATE 128.57%

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
Geotechnical-Subsurface Exploration	79,252	168	8,194	10,536	2,704		21,434	12.29%
Geotechnical-Analysis and Report		280	14,852	19,095	4,901		38,848	22.27%
PESA	1,380	208	8,848	11,376	2,920		23,144	13.27%
QA/QC		26	1,950	2,507	643		5,100	2.92%
Project Coordination / Management		26	2,018	2,595	666		5,279	3.03%
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Subconsultant DL							$0.00	
Direct Costs Total ===>	$80,632.00						$80,632.00	46.22%
TOTALS		708	35,862	46,109	11,834	-	174,437	100.00%

81,971

Local Public Agency
LCDOTH

County
Lake

Section Number

Consultant / Subconsultant Name
GSG Consultants, Inc.

Job Number

AVERAGE HOURLY PROJECT RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

SHEET 1 OF 1

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJ. RATES			Geotechnical-Subsurface Exploration			Geotechnical-Analysis and Report			PESA			QA/QC			Project Coordination / Management		
		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	90.00	36.0	5.08%	4.58	8	4.76%	4.29	8	2.86%	2.57	4	1.92%	1.73	8	30.77%	27.69	8	30.77%	27.69
Senior Project Manager	90.00	0.0																	
Project Manager	72.12	66.0	9.32%	6.72	20	11.90%	8.59	12	4.29%	3.09	8	3.85%	2.77	8	30.77%	22.19	18	69.23%	49.93
Assistant Project Manager	55.72	0.0																	
Senior Engineer II	65.28	50.0	7.06%	4.61				40	14.29%	9.33				10	38.46%	25.11			
Senior Engineer I	58.35	0.0																	
Project Engineer II	53.85	160.0	22.60%	12.17	20	11.90%	6.41	140	50.00%	26.92									
Project Engineer I	46.95	0.0																	
Staff Engineer II	40.85	160.0	22.60%	9.23	100	59.52%	24.32	60	21.43%	8.75									
Staff Engineer I	34.45	0.0																	
Senior Inspector	64.33	0.0																	
Inspector II	43.49	20.0	2.82%	1.23	20	11.90%	5.18												
Inspector I	35.96	0.0																	
Senior Environmental Scie	54.39	20.0	2.82%	1.54							20	9.62%	5.23						
Environmental Scientist II	39.32	160.0	22.60%	8.89							160	76.92%	30.25						
Environmental Scientist I	32.18	0.0																	
CAD Designer	33.23	36.0	5.08%	1.69				20	7.14%	2.37	16	7.69%	2.56						
Project Control	57.29	0.0																	
Document Control	40.96	0.0																	
Field Technician	29.07	0.0																	
Laboratory Technician	27.88	0.0																	
Land Surveyor	41.82	0.0																	
Administrative Support	30.20	0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
TOTALS		708.0	100%	$50.65	168.0	100.00%	$48.78	280.0	100%	$53.04	208.0	100%	$42.54	26.0	100%	$74.99	26.0	100%	$77.62

GSG CONSULTANTS, INC.
Engineers-Scientists-Construction Managers
735 Remington Road, Schaumburg, IL 60173
Tel: 630.994.2600, www.gsg-consultants.com

SCHEDULE A-2 to BDE 436 Direct Cost Check Sheet
IDOT Direct Cost Category: Drilling
GSG Consultants, Inc
In-House Drilling Schedule - 2025

Job/Prop No.: PTB 210-002
Client: WBK Engineering
Project Name: US 14 between the McHenry County Line and Hart Road
Location: Lake County, IL

Contact: Ala Sasaila
Phone: 630.994.2610
Fax:
Email:

Description	Unit	Unit Rate	Quantity	Total
Mobilization and Demobilization				
Mobilization/Demobilization (ATV H.S.A. Rig)& Service Truck	HOUR	$720.00		$0.00
Mobilization/Demobilzation (Truck H.S.A. Rig & Service Truck)	HOUR	$515.00	8.00	$4,120.00
Mobilization/Demobilization Geo probe	Hour	$310.00		$0.00
Mobilization Drilling Crew (Equipment on Site)	hour	$310.00		$0.00
Mobilization/Demobilization CPT	Day	$720.00		$0.00
CPT Daily Rate	Day	$4,635.00		$0.00
Prevailing Wage Diff from Regular Salary Rate (2 man/crew)	HOUR	$16.00	64.00	$1,024.00
Prevailing Wage Diff from Regular Salary Rate (2 man/crew) - Overtime	HOUR	$47.00	16.00	$752.00
Prevailing Wage Diff from Regular Salary Rate (2 man/crew) - Night Shift	HOUR	$19.00		$0.00
Prevailing Wage Diff from Regular Salary Rate (2 man/crew) - Night Shift Overtime	HOUR	$55.00		$0.00
Prevailing Wage Diff from Regular Salary Rate (2 man/crew) - Sunday	HOUR	$102.00		$0.00
Drill Rig Daily Rate (8 hours)	Day	$1,650.00	8.00	$13,200.00
Standby Boring Access / Rough Drilling over 35 blows / Hauling Water	HOUR	$310.00	2.00	$620.00
Drill Rig Hourly Rate (over 8 hours)	Hour	$232.00		$0.00
Borehole Setup (Borings less than 10')	EACH	$51.50		$0.00
Hollow Stem Augering, 3 1/4" or 4 1/4"				
0 - 30'	LF.	$14.00	640.00	$8,960.00
30' - 50'	LF.	$19.00		$0.00
51' - 75'	LF.	$22.15		$0.00
76' - 100'	LF.	$23.20		$0.00
100' - 125'	HOUR	$310.00		$0.00
Geoprobe Sampling	LF.	$28.85		$0.00
Split Spoon Sampling (2" Diameter)				
0' - 30'	EACH	$18.50	256.00	$4,736.00
30' - 50'	EACH	$22.65		$0.00
51' - 75'	EACH	$35.00		$0.00
76' - 100'	EACH	$92.70		$0.00
100' - 150'	HOUR	$304.00		$0.00
Shelby Tubes 0 - 50'	EACH	$66.95		$0.00
Mud Rotary Drilling Set up Charge	EACH	$206.00		$0.00
Mud Rotary (<4" Diameter)				
0' - 30'	L.F.	$16.00		$0.00
0' - 50'	L.F.	$21.00		$0.00
51' - 75'	L.F.	$23.70		$0.00
76' - 100'	L.F.	$26.80		$0.00
100' - 150'	HOUR	$310.00		$0.00
Split Spoon Sampling Mud Rotary (2" Diameter)				
0' - 30'	EACH	$21.00		$0.00
30' - 50'	EACH	$24.00		$0.00
51' - 75'	EACH	$35.00		$0.00
76' - 100'	EACH	$106.00		$0.00
100' - 150'	HOUR	$310.00		$0.00
Install & Remove 3" NW Casing (0 - 100') (if required)	HOUR	$360.50		$0.00
Install & Remove 3" NW Casing (100' - 150')	HOUR	$360.50		$0.00
Bedrock Coring Setup	HOLE	$180.25		$0.00
Rock Coring (NX size)	L.F.	$56.65		$0.00
Backfill Geoprobe soil Cutting	LF	$6.20		$0.00
Backfill Environmental Boring (Bentonite or Grout)	L.F.	$8.25		$0.00
Backfill soil cutting	LF	$7.00	604.00	$4,228.00
Backfill Boring (Bentonite or Grout)	L.F.	$9.00	36.00	$324.00
Rock Rotary Drilling (<4" Diameter)				
0 - 50'	L.F.	$67.00		$0.00
51' - 75'	L.F.	$77.25		$0.00
76' - 100'	L.F.	$92.70		$0.00
100' - 150'	HOUR	$310.00		$0.00
Piezometers 2" PVC Backfilled with Cuttings	L.F.	$12.35		$0.00
Fast Set 45 Concrete Patch or DOT Road & Bridge Patch Mix	Each	$231.75	80.00	$18,540.00
Geoprobe (Wage, Mob. other items as above) - Direct Push DT 1-1/8"	L.F.	$28.85		$0.00
Pavement Coring - 4-8 Inch	Each	$206.00	16.00	$3,296.00
Electric Concrete Coring Machine	DAY	$257.50		$0.00
Inclinometer Installation Including Material w/Cement & Bentonite	L.F.	$41.20		$0.00
Concrete / Asphalt Drilling (6 or 8-inch Diameter)	Each	$257.50		$0.00
Concrete Coring - 4 Inch (w/Drill Rig)	PER INCH	$31.00		$0.00
Concrete Coring - 6 Inch (w/Drill Rig)	EACH	$257.50		$0.00
Concrete Structure Core Repair - Bridge Deck 4" to 5" Dia. X 8" to 10" Thick	EACH	$257.50		$0.00
Concrete Structure Core Repair - Culvert 4" to 5" Dia. X 3 Feet Thick	EACH	$360.50		$0.00
Rough Drilling / Damaged Cutter Head / Augur Replacement	Each	$463.50		$0.00
Desander & Pump Rental for Mud Rotary Drilling	DAY	$206.00		$0.00
Generator - Night Work	DAY	$206.00		$0.00
Decon	DAY	$257.50		$0.00
Private Utility Locator	Hour	$257.00		$0.00
				$59,800.00

Rates adjusted 3% annually on January 1st of each year

GSG CONSULTANTS, INC.
735 Remington Road, Schaumburg, IL 60173
Tel: 630.994.2600, www.gsg-consultants.com

SCHEDULE A-1 to BDE 436 Direct Cost Check Sheet

IN-House Lab Services Schedule - 2025

Description	UOM	Unit Price	Quantity	Extended Cost
Moisture Content - AASHTO T 265	EACH	$17.00	256	$4352.00
Atterberg Limits - AASHTO T 89 and T 92	EACH	$129.00	10	$1290.00
Sieve analysis - IL Mod. AASHTO T 27/T 11	EACH	$144.00		$0.00
Particle Size Analysis: Hydrometer analysis - AASHTO T 88	EACH	$220.00	4	$880.00
Unconfined Compression Test (Soil) - AASHTO T 208	EACH	$88.00		$0.00
Organic Matter Content - AASHTO T 194	EACH	$67.00	10	$670.00
pH - AASHTO T 289	EACH	$21.00		$0.00
No. 200 Wash	EACH	$130.00		$0.00
Unit Weight	EACH	$52.00		$0.00
Permeability	EACH	$464.00		$0.00
Standard Proctor	EACH	$237.00		$0.00
Modified Proctor	EACH	$289.00		$0.00
AASHTO 216 One Dim consolidation	EACH	$670.00		$0.00
Unconfined Compression Test (Rock)	EACH	$196.00		$0.00
UU Triaxial Compression Test	EACH	$412.00		$0.00
CU Triaxial Compression Test - AASHTO T 297	EACH	$540.00		$0.00
CD Triaxial Compression Test - AASHTO T 297	EACH	$1080.00		$0.00
Remold soil samples using 95% modified proctor	EACH	$258.00		$0.00
Resistivity- T 288	EACH	$186.00		$0.00
Soil Corrosion - Sulfate	EACH	$129.00		$0.00
Soil Corrosion - Chloride	EACH	$134.00		$0.00
Thermal Resistivity - 4 Determinations	EACH	$925.00		$0.00
Uniaxial Compression Test - ASTM D 7012	Each	$225.00		$0.00
Specific Gravity - T 100	EACH	$129.00		$0.00
Permeability - Constant Head - Granular	EACH	$299.00		$0.00
Hydraulic Conductivity ASTM 5084	Each	$464.00		$0.00

SUBTOTAL ESTIMATE	$7,192.00

Rates adjusted 3% annually on January 1st of each year

Illinois Department of Transportation

EXHIBIT D

COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

FIXED RAISE

Local Public Agency	County	Section Number
Lake County Division of Transportation	Lake	25-00999-17-WR
Prime Consultant (Firm) Name	**Prepared By**	**Date**
Benesch		11/18/2025
Consultant / Subconsultant Name	**Job Number**	
Bravo Company Engineering		

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	24	MONTHS	OVERHEAD RATE	120.00%
START DATE	3/10/2026		COMPLEXITY FACTOR	
RAISE DATE	1/1/2027		% OF RAISE	3.00%
END DATE	3/9/2028			

ESCALATION PER YEAR

Year	First Date	Last Date	Months	% of Contract
0	3/10/2026	1/1/2027	10	41.67%
1	1/2/2027	1/1/2028	12	51.50%
2	1/2/2028	3/1/2028	2	8.84%

The total escalation = 2.01%

Local Public Agency	County	Section Number
Lake County Division of Transportation	Lake	25-00999-17-WR

Consultant / Subconsultant Name	Job Number
Bravo Company Engineering	

PAYROLL RATES

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

MAXIMUM PAYROLL RATE	90.00
ESCALATION FACTOR	2.01%

JOB SPECIFIC - Classifications and Average Payrates need to match current payrolls submitted to the Department.

CLASSIFICATION	IDOT AVG PAYROLL RATES ON FILE	CALCULATED RATE
Project Manager	$68.00	$69.37
Engineer III	$55.00	$56.10
Engineer I	$32.00	$32.64
Chief Layout Specialist	$55.00	$56.10

Local Public Agency	County	Section Number
Lake County Division of Transportation	Lake	25-00999-17-WR

Consultant / Subconsultant Name	Job Number
Bravo Company Engineering	

SUBCONSULTANTS

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

NAME	Direct Labor Total (Payroll Only)	Contribution to Prime Consultant
Total	**0.00**	**0.00**

NOTE: Only subconsultants who fill out a cost estimate that splits out direct labor may be listed on this sheet.

Local Public Agency
Lake County Division of Transportation

County
Lake

Section Number
25-00999-17-WR

Consultant / Subconsultant Name
Bravo Company Engineering

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
Per Diem (per Federal GSA)	Up to federal maximum			$0.00
Lodging (per Federal GSA)	Actual Cost (Up to Federal rate maximum)			$0.00
Lodging Taxes and Fees (per Federal GSA)	Actual Cost			$0.00
Air Fare	Coach rate, actual cost, requires minimum two weeks' notice, with prior IDOT approval			$0.00
Vehicle Mileage (per Federal GSA)	Up to Federal rate maximum			$0.00
Vehicle Owned or Leased (no mileage charge allowed)	$32.50/half day (4 hours or less) or $65/full day	34	$65.00	$2,210.00
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)	1	$25,000.00	$25,000.00
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
				$0.00
				$0.00
				$0.00
			TOTAL DIRECT COSTS:	**$27,210.00**

Local Public Agency

Lake County Division of Transportation

County

Lake

Section Number

25-00999-17-WR

Consultant / Subconsultant Name

Bravo Company Engineering

Job Number

COST ESTIMATE WORKSHEET

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

OVERHEAD RATE 120.00%

COMPLEXITY FACTOR 0

TASK	DIRECT COSTS (not included in row totals)	MANHOURS	PAYROLL	OVERHEAD & FRINGE BENEFITS	FIXED FEE	SERVICES BY OTHERS	TOTAL	% OF GRAND TOTAL
1. Early Coordination and Data Collection		96	3,629	4,355	1,198		9,182	6.06%
2. Field Survey	2,210	338	19,202	23,042	6,337		50,791	33.51%
3. SUE Plan Sheets and Utility Model	25,000	240	9,630	11,555	3,178		49,363	32.57%
4. Utility Company Coordination		240	12,425	14,909	4,100		31,434	20.74%
5. Project Administration		86	4,260	5,112	1,406		10,778	7.11%
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Subconsultant DL					0.00			
TOTALS	27,210	1000	49,146	58,973	16,219	-	151,548	100.00%

Local Public Agency

Lake County Division of Transportation

Consultant / Subconsultant Name

Bravo Company Engineering

County

Lake

Section Number

25-00999-17-WR

Job Number

AVERAGE HOURLY PROJECT RATES

EXHIBIT D COST ESTIMATE OF CONSULTANT SERVICES (CECS) WORKSHEET

SHEET 1 OF 1

PAYROLL	AVG	TOTAL PROJ. RATES			1. Early Coordination and Data Collection			2. Field Survey			3. SUE Plan Sheets and Utility Model Development			4. Utility Company Coordination			5. Project Administration		
CLASSIFICATION	HOURLY RATES	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Project Manager	69.37	98.0	9.80%	6.80	2	2.08%	1.45	18	5.33%	3.69	8	3.33%	2.31	56	23.33%	16.19	14	16.28%	11.29
Engineer III	56.10	366.0	36.60%	20.53	18	18.75%	10.52	168	49.70%	27.89	48	20.00%	11.22	108	45.00%	25.25	24	27.91%	15.66
Engineer I	32.64	352.0	35.20%	11.49	76	79.17%	25.84	0			168	70.00%	22.85	76	31.67%	10.34	32	37.21%	12.15
Chief Layout Specialist	56.10	184.0	18.40%	10.32	0			152	44.97%	25.23	16	6.67%	3.74	0			16	18.60%	10.44
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TOTALS		1000.0	100%	$49.15	96.0	100.00%	$37.81	338.0	100%	$56.81	240.0	100%	$40.12	240.0	100%	$51.77	86.0	100%	$49.53

Lake County Illinois

Certified Copy

resolution: 26-0501

File Number: 26-0501

Joint resolution authorizing an agreement with Alfred Benesch & Company, Chicago, Illinois, to provide Phase I professional engineering services for improvements along Bonner Road, from Darrell Road to Fairfield Road, at a maximum cost of $3,267,871, and appropriating $3,922,000 of the County Option Motor Fuel Tax funds.

RESOLUTION

WHEREAS, Bonner Road, County Highway 61, is a designated route on the county highway system; and

WHEREAS, Lake County believes it would be beneficial to the safety and welfare of the traveling public if Bonner Road, from Darrell Road to Fairfield Road could be improved, inclusive of non-motorized improvements; and

WHEREAS, Phase I professional engineering services are required for these improvements; and

WHEREAS, it is recommended that a consultant engineering firm be employed to provide these professional engineering services; and

WHEREAS, Lake County, by and through its Division of Transportation, has selected a professional engineering services firm in accordance with the Local Government Professional Services Selection Act, 50 ILCS 510/1 et. seq.; and

WHEREAS, Alfred Benesch & Company, Chicago, Illinois, are consulting engineers skilled in the provision of these Phase I professional engineering services; and

WHEREAS, Lake County, by and through its Division of Transportation, incurs other associated project costs and fees that are paid for outside of this engineering contract; and

WHEREAS, an appropriation of funds is required.

NOW, THEREFORE, BE IT RESOLVED, by this County Board of Lake County, Illinois, that the County Board Chair, the County Clerk, and the County Engineer of Lake County are authorized, and hereby directed to execute on behalf of Lake County, an agreement, and any amendments, between Lake County and Alfred Benesch & Company, Chicago, Illinois, at a maximum amount of $3,267,871, for Phase I professional engineering

services for improvements along Bonner Road, from Darrell Road to Fairfield Road, a draft copy of which is attached hereto; and

BE IT FURTHER RESOLVED, that the County Engineer shall transmit, in writing, the final agreement and any amendments, to be executed by the County Board Chair and the County Clerk; and

BE IT FURTHER RESOLVED, that there is hereby appropriated $3,922,000 of County Option Motor Fuel Tax funds for these Phase I professional engineering services and other associated project costs, and designated as Section 25-00999-17-WR; and

BE IT FURTHER RESOLVED, that this agreement be administered in accordance with Chapter 605, Act 5, Section 5-205.2 of the Illinois Compiled Statutes without further board action, providing the final contract cost chargeable under the funds appropriated does not exceed the appropriation.

DATED at Waukegan, Illinois, on May 12, 2026.

I, Anthony Vega, County Clerk, in and for said Lake County, Illinois, in the State aforesaid, and keeper of the records and files thereof, as provided by statute, do hereby certify that this is a true copy of resolution No. 26-0501, passed by the Lake County Board on 5/12/2026.

Attest: [redacted]

May 14, 2026
Date Certified