Municipality	LOCAL AGENCY	Illinois Department of Transportation	CONSULTANT	Name: Baxter & Woodman, Inc
Township				Address: 8678 Ridgefield Road
County: Lake County – Division of Transportation		**Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds**		City: Crystal Lake
Section: 16-00222-02-CH				State: IL

THIS AGREEMENT is made and entered into this _____ day of March , 2017 between the above Local Agency (LA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the improvement of the above SECTION. Non-Motor Fuel Tax Funds, allotted to the LA ~~by the State of Illinois~~, under the general supervision of the State Department of Transportation, hereinafter called the "DEPARTMENT", will be used entirely ~~or in part~~ to finance ENGINEERING services as described under AGREEMENT PROVISIONS.

Section Description

Name Stearns School Road (CH 74) at US Hwy 41, Intersection Improvements

Route CH 74 Length 0.765 Mi. 4040.00 FT (Structure No. _____)

Termini CH 74: Notting Hill Rd to US Hwy 41; US Hwy 41: Commercial Dr (Gas Station) to IL 21

Description:
This project will include channelization improvements at Stearns School Rd/US Hwy 41, channelization at Stearns School Rd/ Fuller Rd, widening of Stearns School Rd and other miscellaneous improvements

Agreement Provisions

The Engineer Agrees,

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

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

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

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

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

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

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

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

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

The LA Agrees,

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

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

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

Schedule for Percentages Based on Awarded Contract Cost

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

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

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

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

The Total Not-to-Exceed Contract Amount shall be $465,565.12

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

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

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

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

4. That, should the improvement be abandoned at any time after the ENGINEER has performed any part of the services provided for in sections 1 and 3 of the ENGINEER AGREES and prior to the completion of such services, the LA shall reimburse the ENGINEER for the ENGINEER's actual costs plus 160 percent incurred up to the time the ENGINEER is notified in writing of such abandonment -"actual cost" being defined as in paragraph 2 of the LA AGREES.

5. That, should the LA require changes in any of the detailed plans, specifications or estimates except for those required pursuant to paragraph 4 of the ENGINEER AGREES, ~~after they have been approved by the DEPARTMENT~~, the LA will pay the ENGINEER for such changes on the basis of actual cost plus 160 percent to cover profit, overhead and readiness to serve -"actual cost" being defined as in paragraph 2 of the LA AGREES. It is understood that "changes" as used in this paragraph shall in no way relieve the ENGINEER of the ENGINEER's responsibility to prepare a complete and adequate set of plans and specifications.

It is Mutually Agreed,

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

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

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

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

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

Executed by the LA:

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

ATTEST:

State of Illinois, acting by and through its

By _____

County Board

Lake County Clerk

By _____

(Seal)

Title Chairman of the County Board

RECOMMENDED FOR EXECUTION

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

Executed by the ENGINEER:

_____
Engineering Firm

_____
Street Address

ATTEST:

_____
City, State

By _____

By _____

Title _____

Title _____

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

STEARNS SCHOOL ROAD (CH 74) AT U.S. HIGHWAY 41
INTERSECTION IMPROVEMENTS
PHASE I ENGINEERING SERVICES
LAKE COUNTY DIVISION OF TRANSPORTATION
SECTION 16-00222-02-CH

SCOPE OF SERVICES

LOCATION:

The project is located on Stearns School Road, U.S. Highway 41, and Fuller Road within the Unincorporated Lake County near the Village of Gurnee. The area for study includes the following:

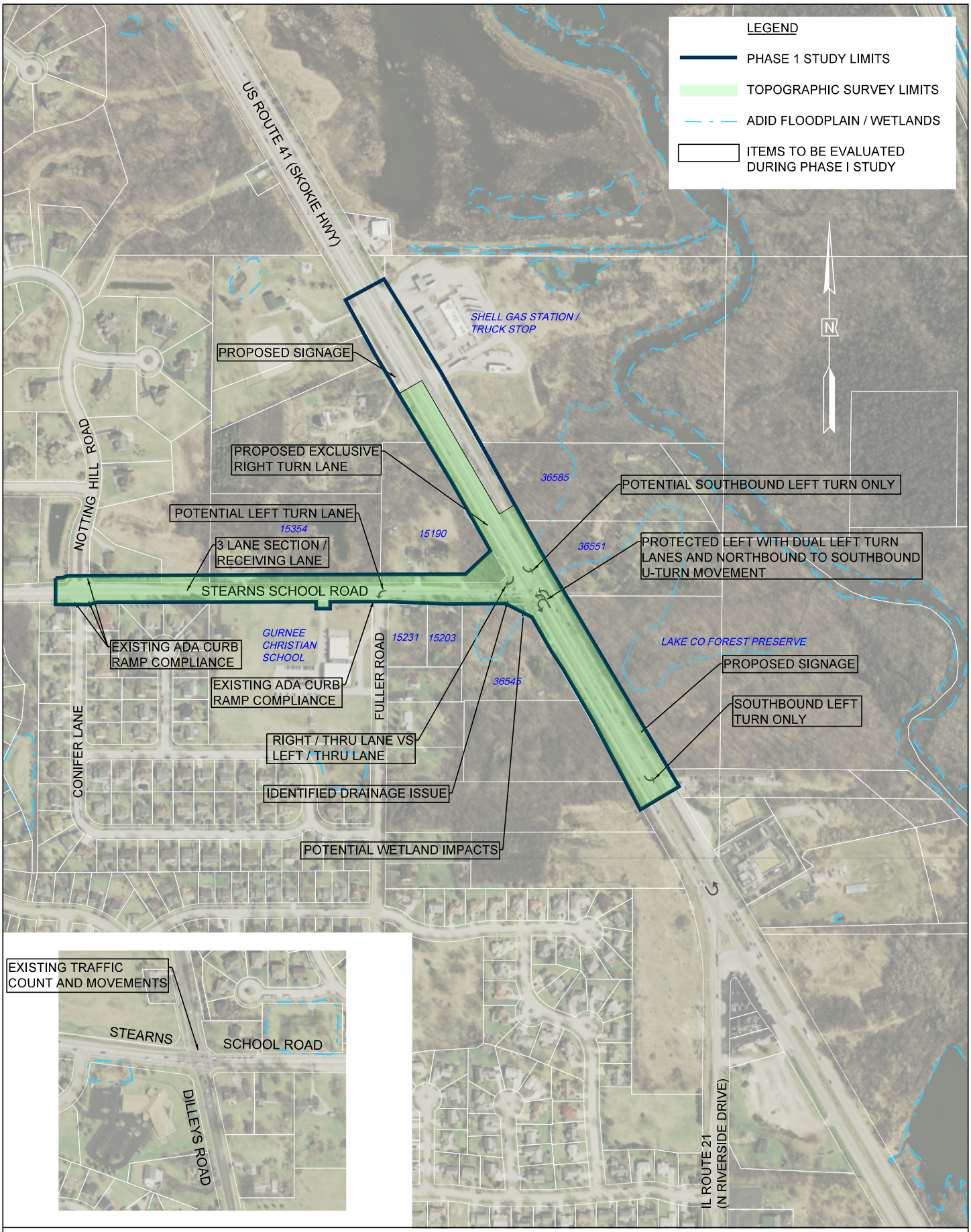
Roadway	Limits	Length
Stearns School Road	Notting Hill Road to U.S. HWY 41	1,830 FT
U.S. Hwy 41	730-ft Northwest of Stearns School Road to 900-ft southeast of Stearns School Road	2,240 FT
Fuller Road	Stearns School Road to 220-ft South	220 FT

PROJECT UNDERSTANDING:

This project involves Phase I Engineering and Environmental Studies for the intersection improvements at Stearns School Road and U.S. Hwy 41. US Hwy 41 is a divided four lane road with two 12' lanes in each direction and 10 ft wide paved shoulders on both sides under the jurisdiction of the Illinois Department of Transportation (IDOT). There is barrier wall in the median to the north and a left turn lane with mountable median on the south leg. There are traffic signals at the intersection of US Hwy 41 and Stearns School Road and at the intersection of US Hwy 41 and IL Route 21. The intersections are approximately 1,400 ft apart.

Stearns School Road is primarily a two lane road with 12 ft wide lanes under the jurisdiction of the Lake County Division of Transportation (LCDOT). At the east end of Stearns School Road, it forms a T-intersection with US Hwy 41. In the eastbound direction, it has a shared left turn/through lane and a right turn only lane. There is a driveway to a single family house on the east side of US Hwy 41, opposite of Stearns School Road. Westbound, Stearns School Road has a single through lane and a bypass lane at Fuller Road. Stearns School Road has B-6.24 curb and gutter on both the north and south sides of the road and on the returns at the intersection. Stearns School Road has a sidewalk on the south side, west of Fuller Road. There are no crosswalks on either US Hwy 41 or Stearns School Road. The existing sidewalk along the south side of Stearns School Road and the west side of Fuller Road is owned and maintained by the Village of Gurnee and appear to have sections that are non-ADA compliant due to cross slope and running slope. ADA ramps at Fuller Road and Notting Hill Road are in need of updating due to lack of or improper detectable warning surfaces and slopes.

Gurnee Christian School is located at the intersection of Stearns School Road and Fuller Road. The remaining project area land use is predominantly residential, single family homes. North and south of the project limits there are several businesses along US Hwy 41.



BAXTER & WOODMAN Consulting Engineers

LakeCounty Division of Transportation

STUDY LIMITS MAP

US ROUTE 41 (SKOKIE HWY) AND STEARNS SCHOOL RD

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3/14/2017

This project will follow federal project development procedures to ensure eligibility for federal funding after completion of the Phase 1 Study. The project will be coordinated with IDOT's Bureau of Local Roads and Streets and the Federal Highway Administration for reviews and Phase 1 Design Approval. It is anticipated that this project will be processed as a State Approved Categorical Exclusion.

SCOPE OF SERVICES:

1. EARLY COORDINATION AND DATA COLLECTION

- *Data Collection:* Obtain, review and evaluate the following information for use in the study:
  - Record Roadway and Drainage Plans including CADD files, if available
  - Utility Atlases
  - Existing Structure Plans with Inspection Reports
  - GIS Shape files surrounding the project limits
  - Aerial Photography
  - Environmental Studies
  - Maintenance and flooding records
  - Drainage Studies
  - Available traffic data
  - Hydraulic and Hydrologic information and calculations
  - Soils and Geological Information
  - Right-of-way, GIS and property data

- *Field evaluation:* Perform a field evaluation of the condition of existing pavements, drainage structures, and curb and gutter. Collect and record all necessary field data for structural, roadway, drainage, utility, and pavement analysis. Observe and photograph the project area and immediate surroundings.

- *Crash Data, Agency Coordination and Crash Analysis Report:* Review 5 year crash data provided by LCDOT. Coordinate with IDOT, Gurnee Police Department, and the Lake County Sheriff's Office for further clarification regarding specific accident reports and to ensure State Based System includes all known crash data. Prepare collision diagram exhibits for the last 5 years of available data. Complete an accident analysis to evaluate the frequency, severity, and recommended countermeasures.

- *Traffic Counts and Origin-Destination Evaluation:*
  Utilize Miovision traffic counting technology to obtain 24-hour intersection traffic counts and/or 24-hour Average Daily Traffic counts at the following locations (1 week day per location):
  - Stearns School Road at US Hwy 41
  - Stearns School Road at Fuller Road
  - Stearns School Road at Notting Hill Road
  - Stearns School Road at Dilleys Road

  Baxter & Woodman will provide electronic files consistent with IDOT procedures and formatting, which will include turning movement volumes, and vehicle classification at one hour intervals.

  Additionally, Baxter & Woodman staff will review video and perform field inspections during traffic count periods to evaluate point of origin for key turning movements including left turn

movement from Stearns School Road onto Fuller Road and U-Turn Movements at US Hwy 41/Stearns School Road.

- *Highway Safety Improvement Program (HSIP):*
  Prepare submittal package in accordance with IDOT's Safety Engineering Policy Memorandum, SAFETY 1-06, Highway Safety Improvement Program including the following:
  - HSIP Candidate Form
  - Determination of Countermeasures and Proposed Concepts
  - Benefit Cost Analysis
  - Study Location Map
  - Supporting Exhibits and Photo Logs
  - Crash Summary Tables

2. TOPOGRAPHIC SURVEY

- *Topographic Survey:* Perform topographic survey within the project limits and at 50-foot intervals including driveways and cross streets in accordance with the LCDOT's Design Survey Procedures (Revised 03/10/2017). Refer to the Study Limits Map for the limits of the Topographic Survey (Approximately 4,300-feet total). State plane coordinates and NAVD 88 will be used for horizontal and vertical controls.

  Outside the anticipated right-of-way, County contours shall be utilized for approximating compensatory storage, detention, borrow excavation, and mass grading design elevations. Supplemental Survey (below) will be provided upon identifying these off-site locations.

- *Photos:* Collect photographs along the project route to assist with design drawings and exhibits.

- *Structures:* Collect drainage structure condition, inverts, size, and flow direction.

- *Tree Survey:* Conduct a survey of trees exceeding 4" diameter within the area of impact that includes size, species, and condition. The tree survey limits will match the topographic survey limits as shown on the Study Limits Map. Provide a summary of findings and anticipated replacement values.

- *Terrain Model:* Download and develop digital terrain model for use in design and plan preparation.

- *Right of Way*: Field-locate existing property corners and conduct research at the County Recorder office to obtain recorded documents for determining the limits of existing right of way and easements.

- Supplemental Survey: As approved by LCDOT, provide additional topographic survey for areas identified for compensatory storage, detention facilities, borrow excavation, and mass grading adjacent to the project site. These areas may include survey within previously identified compensatory storage concepts, planned detention facilities, remnant parcels, and proposed stormwater facilities for accurate calculations during Phase I design and future permitting.

3. TRAFFIC ANALYSIS

- *Traffic Forecasting:* Based on traffic data collected, develop projected 2040 traffic volumes at the following intersections per FHWA guideline:
  - Stearns School Road at US Hwy 41 (Potential changes to geometry)
  - Stearns School Road at Fuller Road (Potential changes to geometry)
  - Stearns School Road at Notting Hill Road (No geometric changes anticipated)
  - Stearns School Road at Dilleys Road (No geometric changes anticipated)

  Coordinate with the LCDOT and Chicago Metropolitan Agency for Planning (CMAP) for concurrence on 2040 traffic projections.

- *Capacity Analysis:* Complete an intersection capacity analysis (AM & PM) using Highway Capacity Software (HCS) for the Stearns School Road at U.S. Hwy 41 intersection improvements to be utilized as part of the Intersection Design Study. The following alternatives will be evaluated:
  - Existing Traffic (based on Miovision Traffic Counts) with existing configuration
  - Existing Traffic (based on Miovision Traffic Counts) with proposed configuration
  - 2040 Traffic with existing configuration
  - 2040 Traffic with proposed configuration

  Utilize Synchro (Version 9) simulation software to prepare traffic models for three geometric alternatives. Synchro 9 format files will be provided to LCDOT. Miovision traffic counts will be utilized to establish the existing conditions model. It is assumed LCDOT will provide Synchro files and all necessary timing data for the intersections within the study limits. The Synchro analysis will be utilized to investigate corridor sufficiency and will assist in establishing recommended signal phasing for Phase II signal and intersection design.

  The Synchro model will analyze the existing condition and proposed improvements for the weekday AM and PM peak hour and will include the following intersections:
  - Stearns School Road at U.S. Hwy 41
  - Stearns School Road at Fuller Road

  The Synchro model will update the County's model at the following intersections based on future traffic conditions once intersection improvements are made at US 41 and Fuller Road:
  - Stearns School Road at Dilleys Road
  - Stearns School Road at Notting Hill Road

- *Traffic Simulation:* Simulations utilizing SimTraffic by Trafficware will be prepared for use in Public Involvement meetings.

4. ALTERNATIVE ANALYSIS

- *Alternative Geometric Development*: Analyze and schematically develop alternative alignments, configurations, and geometrics to establish the preferred alternative on Stearns School Road and on U.S. Hwy 41 utilizing 3R Criteria and 45 mph design speed along US Hwy 41. Review critical cross sections, right-of-way, impacts, and design constraints. Compile alternatives and summarize findings of the analysis with recommendations. A maximum of 3 alternatives for Stearns School Road, 2 minor alternatives for US Hwy 41 and 2 verifications of alternatives for US Hwy 41 are included.

- Stearns School Road Alternatives
  - Symmetric vs. Asymmetric Widening
  - Westbound left turn lane on Stearns School Road at Fuller Road
  - WB Extension of through lane/EB Right Thru vs Left Thru

- US Hwy 41 Minor Alternatives
  - Southbound Left turn lane at Stearns School Road/US Hwy 41
  - Left turn lane for Southbound US Hwy 41 between Stearns School Road and IL Rte 21
- Verification of Alternatives
  - Northbound dual left turn lanes at Stearns School Road/US Hwy 41
  - Southbound right turn lane at Stearns School Road/US Hwy 41

Concept sketches of each alternative considered will be developed and the analysis will include conceptual development of the following items:

- Access control
- Alternative multi-use trail/pedestrian accommodations
- Programming level cost estimates
- Right of way impacts
- Building structure impact alternatives
- Interim solutions
- Detention, compensatory storage, and wetland mitigation concepts will be included

- *Intersection Design Report*: Prepare an intersection design report in accordance with the LCDOT Design Standards and submit to LCDOT for concurrence to assist in determination of the preferred alternative.

- *Intersection Lighting Study*: Prepare a technical memorandum determining the need for intersection lighting at Stearns School Road and U.S. Hwy 41 based on Chapter 56 of IDOT's Bureau of Design and Environment Manual and NCHRP Report No. 152 Warrants for Highway Lighting.

5. PRELIMINARY DESIGN OF PREFERRED ALTERNATIVE

- *ROW Analysis:* Determine the preferred improvement right-of-way requirements and need for acquisition. Recommend and identify necessary temporary construction easements, permanent easements, or right-of-way acquisition to complete the proposed improvements.

- *Intersection Design Study:* Prepare an Intersection Design Study (IDS) for the Stearns School Road at U.S. Highway 41 signalized intersection.

  - Prepare a 1 in = 50 ft scale plan view layout of the intersection, including a Capacity Design Analysis table for 2040 traffic, DHV turning movement diagram, Traffic Data table, property lines, and existing and proposed right of way.
  - Prepare profile sheets at a 1 in = 50 ft scale for roadway profiles greater than 1%.
  - Prepare Truck Turning Movement sheets at a 1 in = 50 ft scale for the design vehicle using Autoturn design software.

- *Preferred Alternative Geometric Design:* Develop the preferred improvement plan, profile, and cross sections throughout the project. Identify design constraints including clear zone, obstructions, drainage limitations, and potential design exceptions. Include development of the following items in the preferred improvement:

  - Alternative multi-use trail/sidewalk
  - Driveways and adjacent intersections
  - Drainage facilities

- *Typical Sections:* Prepare typical sections for the existing and proposed improvements, showing dimensions for roadway surfaces, bases, subbases, subgrade treatments, gutters, curb and gutters, medians, sidewalks, bike paths, ditches, backslopes, and right of way.

- *Cross Section Design:* Design roadway cross sections at 50-foot intervals and all cross streets, driveways and cross-road culverts utilizing Bentley's GeoPak Corridor Modeling and Cross Section Design Program.

- *Traffic Management Plan:* Prepare a technical memorandum to summarize traffic staging in order to accommodate the construction of the proposed alternative in accordance with FHWA Work Safety and Mobility Policy and IDOT District 1 Circular Memorandums regarding traffic control and staging. The memorandum will include Maintenance of Traffic typical sections per stage and a queuing analysis.

- *Conceptual Barrier Warrant Investigation:* Conceptually lay out the limits of required guardrail, and other roadside barrier. The limits will be used to assist with impacts to adjacent properties, floodplain fill, structure types, and cost estimating. Final barrier warrant analysis will be completed during Phase II.

- *Estimate of Cost and Schedule:* Develop preliminary cost estimates for the preferred improvement and anticipated schedule for construction.

6. DRAINAGE ANALYSIS

- *Location Drainage Technical Memorandum (LDTM):* Prepare a Location Drainage Technical Memorandum of the project site including an analysis of the existing drainage system, an analysis of existing outlets, an evaluation of the need for storm water detention and compensatory storage, and design of proposed drainage improvements. Identify sensitive outfalls and complete the drainage report in accordance with the 2014 ACEC/IDOT Drainage Seminar requirements and the requirements of the Lake County Watershed Development Ordinance.

- *Stormwater Detention and Water Quality BMP Implementation:* Identify and recommend a preferred stormwater detention and water quality BMP strategy based on requirements of the Lake County Watershed Development Ordinance. Provide preliminary design of detention facilities that includes anticipated layout, outfalls, volume, and elevations.

7. ENVIRONMENTAL COORDINATION AND PERMITTING

- *Environmental Survey:* Prepare the Environmental Survey Request Form and related exhibits. Submit to IDOT to determine potential environmental impacts. Biological, Archeological, Special Waste Assessment on State Route and Historical surveys will be performed by the State. Wetland delineation and the special waste screening for Stearns School Road will be performed by Baxter & Woodman. Section 4f impacts are not anticipated as part of this project.

- *Permit Agency Early Coordination:* Initiate coordination with the following regulatory agencies to obtain preliminary design comments:

  - *Lake County Stormwater Management Commission (LCSMC)*
  - Illinois Department of Transportation Programming – Hydraulics Unit
  - United States Army Corp of Engineers – Chicago District (USACE)

- *Wetlands:* Perform wetland delineation in the project corridor during the growing season; including documentation of baseline vegetation, hydrology, and soils information. Prepare a Wetland Delineation Report and Exhibits that summarize the methodology used, site description, and results of survey.

- *Wetland Mitigation:* Complete an alternatives analysis to determine if there are any feasible alternatives to minimize impacts to wetlands. Coordinate with LCSMC for development of any alternative strategies.

- *Wetland Impact Evaluation:* Prepare a wetland report detailing the work within a regulatory wetland, including a description of the wetlands being impacted, avoidance, minimization, and mitigation efforts. Submit to IDOT for review and approval.

- *Traffic Noise Analysis*: Coordinate with IDOT to determine the need for a noise analysis due to the potential addition of through traffic lanes on Stearns School Road. The Noise Analysis will include the following items:
  - Determine existing traffic noise levels
  - Predict future traffic noise levels (No-Action and Build)
  - Identify the possible traffic noise impacts
  - Consider and evaluate abatement measures to mitigate highway traffic noise impacts
  - Evaluate potential construction traffic noise impacts, if necessary
  - Propose implementation of feasible and reasonable abatement measures
  - Document the traffic noise evaluation process
  - Communicate the results to the public and local officials

- PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT (PESA) – FOR STEARNS SCHOOL ROAD ONLY

  - *Historical Records Review*: Review and document historical data sources for the project area, including aerial photographs, topographic maps, fire insurance maps, County resources, and other readily available development data.

  - *Environmental Regulatory Records Review*: A computer search of Federal, State, Tribal, and local government agency records will be performed to determine if the Site or adjacent properties are included within the selected regulatory databases. Based on the results of

this query, the Site and its surrounding properties shall be evaluated for recognized environmental concerns (REC). Queries shall be performed, but not be limited to, the following regulatory databases:

- National Priority List (NPL) of Hazardous Waste Sites;
- Hazardous Waste Treatment, Storage, Disposal Facilities (TSDF);
- Underground Storage Tank or Leaking Underground Storage Tank Locations (UST/LUST);
- Sanitary Landfill and Solid Waste Sites (SL/SWS);
- State Hazardous Waste Sites (SHWS);
- CERCLIS sites
- Small and Large Quantity Hazardous Waste Generators (RCRIS-SQG/LGG)
- RCRA

- *Report Preparation*: Based on Environmental Screening results and site visit, prepare a PESA using the processes described in *A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects*, Second edition, January 2012.
  - Prepare a letter report summarizing the activities and results of the assessment. The report will include pertinent documentation to support the screening results of the assessment. It will also provide a summary of conclusions from the limited information collected. A Preliminary Site Investigation (PSI) will not be included within this scope of work.

8. MEETINGS AND PUBLIC INVOLVEMENT

- *Meetings:* The following meetings (26) are anticipated for this project:
  - LCDOT (5 total) (Kickoff, Alternatives, Concept, Preliminary, Prefinal)
  - Regulatory Agencies (4 total): LCSMC (2); IDOT Hydraulics Unit (2)
  - IDOT (2) (Kickoff and Review)
  - IDOT/FHWA Coordination Meetings (2)
  - Public Agency Meetings (4 total): Village of Gurnee (3 – Kickoff, alternatives & preferred); Forest Preserve District of Lake County (1-preferred)
  - Individual Property Meetings (5)
  - Utility Coordination Meetings (2)
  - LCDOT/Geotechnical Meetings (2 – pre bore & post bore)

- *Public Meetings:* Prepare advertisement, exhibits, videos, handouts, and attend two Public Meetings and/or Hearings. Prepare meeting minutes to document public comments. Prepare mailings to property owners identified with land acquisition.
  - *Drone Video and Processing:* Licensed Pilot will coordinate drone activity with the Federal Aviation Administration (FAA) and the Waukegan Airport to fly a drone within the project limits to capture video and images. The video and images will be used to demonstrate weekday peak hour traffic and existing conflicts at the Public Meetings.

- *Project Website:* The design, maintenance and hosting of project website is not included in scope. Will provide project Data to LCDOT upon request.

- *Social Media*: No social media participation is anticipated.

9. PROJECT DEVELOPMENT REPORT

- *Phase I Documentation:* Prepare a Local Project Development Report for a State Approved Categorical Exclusion and submit the report to IDOT-BLRS and the Federal Highway Administration for review and approval. Preliminary, Pre-final, and Final submittals are anticipated. Maintain an updated PPI form and funding application with CMAP and Council of Mayors if necessary.

10. GEOTECHNICAL REPORT

- *See scope prepared by Interra, Inc.*

11. RIGHT OF WAY AND BOUNDARY

- *Plat of Highways:* Perform legal surveys and develop plats, legal descriptions and title commitments according to LCDOT's Plat Guidelines (03/10/17) as well as IDOT guidelines for a maximum of ten (10) adjacent parcels of land to be acquired for R.O.W., permanent easements or temporary construction easements.

- *Private Property Investigation:* Assist with identifying well and septic locations on private property within right of way to be acquired. Research Lake County health department records for available information.

12. QA/QC

- Perform in-house peer and milestone reviews by senior staff during project initiation, conceptual review, preliminary, pre final, and final submittals. Conduct milestone reviews of subconsultants and provide feedback throughout the progress of work.

13. MANAGE PROJECT

- Plan, schedule, and control the activities that must be performed to complete the project including budget, schedule, and scope. Coordinate with LCDOT and project team to ensure the goals of the project are achieved. Prepare and submit monthly invoices, coordinate invoices from sub-consultants, and provide regular updates to the LCDOT.

STEARNS SCHOOL ROAD (CH 74) AT U.S. HIGHWAY 41
LAKE COUNTY DIVISION OF TRANSPORTATION
ENGINEERING SERVICES - MANHOUR SUMMARY

	Task Manhours	Total Manhours
1- EARLY COORDINATION AND DATA COLLECTION		
Data Collection:	40	
Field Evaluation (2 visits - 2 staff members - 6 hrs/visit)	24	
Crash Data, Agency Coordination and Crash Analysis Report	80	
Traffic Counts and Origin-Destination Evaluation		
24 hour traffic count installation (4 loc. at 2 visits x 2 days x 3 hrs)	48	
Origin-destination evaluation (2 Loc; 1 Visit; 2 staff - 4 hrs/visit)	8	
HSIP Submittal	60	
Total task manhours		**260**
2- TOPOGRAPHIC SURVEY		
Topographic Survey		
Field Work	164	
CADD Processing & Management	60	
Tree Survey	60	
Supplemental Survey	24	
Total task manhours		**308**
3- TRAFFIC ANALYSIS		
Traffic Forecasting	12	
Capacity Analysis		
HCS		
4 hrs x 4 alternatives x 1 intersection	16	
Synchro simulations		
4 hrs/model x 2 peak periods x 6 alternatives (3-ex. & 3-2040)	48	
Traffic Simulation (SimTraffic by Trafficware)	24	
Total task manhours		**100**
4- ALTERNATIVE ANALYSIS		
Develop Design Criteria	4	
Alternative Geometric Development		
3 alternatives at 40hrs/alternative	120	
2 minor alternatives at 16 hrs/alternative	32	
2 verifications of alternatives at 8 hrs/alternative	16	
Intersection Design Report	20	
Intersection Lighting Study	20	
Limited X Sections for Symmetric/Assymetric Alt. - 18 @ 2 hrs	36	
Adaptive Signing Investigation	8	
		256

STEARNS SCHOOL ROAD (CH 74) AT U.S. HIGHWAY 41
LAKE COUNTY DIVISION OF TRANSPORTATION
ENGINEERING SERVICES - MANHOUR SUMMARY

	Task Manhours	Total Manhours
5- PRELIMINARY DESIGN OF PREFERRED ALTERNATIVE		
ROW Analysis	32	
Intersection Design Study (1 intersection)	80	
Preferred Alternative Geometric Design		
Alternative multi-use trail/sidewalk	16	
Driveway and adjacent intersections	32	
Plan & Profiles (5 sheets - 1"=50' @ 36 hrs/sheet)	180	
Typical Sections (6 typical sections @ 4 hrs/section)	24	
Cross Sections		
95 cross sections @ 2hrs/section	190	
Traffic Management Plan		
Technical memorandum narrative	32	
Exhibits	40	
Exception to Work Zone Safety and Mobility Rule (if needed)	8	
Conceptual Barrier Warrant Investigation	16	
Estimate of Cost and Schedule	32	
Total task manhours		**682**
6- DRAINAGE ANALYSIS		
Location Drainage Technical Memorandum (LDTM)		
Narrative	40	
General Location Drainage Map	8	
Existing Drainage Plan (4 sheets - 1"=50' @ 28 hrs/sheet)	112	
Identified Drainage Problems	8	
Identified Base Floodplains	6	
Major Culverts (not requiring Hydraulic Report - assume 2)	32	
Design Criteria	6	
Outlet Evaluation	40	
Right-of-way Analysis (evaluation)	24	
Drainage Alternatives	20	
Proposed Drainage Plan (4 sheets - 1"=50' @ 36 hrs/sheet)	144	
Floodplain Encroachment Evaluation	6	
Study Assembly	8	
Stormwater Detention and Water Quality BMP Implementation	60	
Total task manhours		**514**
7- ENVIRONMENTAL COORDINATION AND PERMITTING		
Environmental Survey Request (4 sheets @ 8 hrs/sheet)	32	
Permit Agency Early Coordination (does not include meetings)		
LCSMC	6	
IDOT - Hydraulics	6	
USACE	6	
Wetland - Delineation and Report	40	
Wetland Impact Evaluation	24	
Traffic Noise Analysis	80	
Preliminary Environmental Site Assessment (PESA)		
Historical Records Review	32	
Environmental Regulary Records Review	32	
Report preparation	16	
Total task manhours		**274**

STEARNS SCHOOL ROAD (CH 74) AT U.S. HIGHWAY 41
LAKE COUNTY DIVISION OF TRANSPORTATION
ENGINEERING SERVICES - MANHOUR SUMMARY

	Task Manhours	Total Manhours
8- MEETINGS AND PUBLIC INVOLVEMENT		
Meetings (2 staff members @ 6 hrs/meeting)		
LCDOT (5)	60	
Regulatory Agencies (4)	48	
IDOT (2)	24	
IDOT/FHWA Coordination Meetings (2)	24	
Public Agencies (4)	48	
Individual Property Meetings (5)	60	
Utility Coordination Meetings (2)	24	
LCDOT/Geotechnical Meetings (2)	24	
Public Meetings (2)		
Drone Flight & Video Processing	40	
Exhibit Preparation	160	
Notification letters & Supporting Exhibits	16	
Minutes/Court Reporter	20	
Staff Attendance at Dry Run (2 - 2 staff @ 4hrs/staff)	16	
Staff Attendance at Meetings (2 - 4 staff @ 8 hrs/staff)	64	
	12	
Project Website		
Provide project data for website	16	
Total task manhours		**656**
9- PROJECT DEVELOPMENT REPORT		
Prepare Draft PDR		
Format draft report; compile maps, charts, graphs, and exhibits	32	
Narrative	60	
Print, Bind and submit copies to LCDOT and IDOT BLRS	8	
Address comments	24	
Print, Bind and submit copies to LCDOT and IDOT BLRS	8	
Prepare Final PDR		
Incorporate Public Meeting Information	16	
Revise Narrative and Exhibits	40	
Print, Bind and submit copies to LCDOT and IDOT BLRS	8	
Total task manhours		**196**
10 - GEOTECHNICAL REPORT		
Coordination	8	
Total task manhours		**8**
11- RIGHT OF WAY AND BOUNDARY		
Plat of Highways		
Plat, Legal Description, and Title Commitment Prep (10 parcels)	80	
Plat of Highway Preparation	40	
Private Property Investigation	16	
Total task manhours		**136**

STEARNS SCHOOL ROAD (CH 74) AT U.S. HIGHWAY 41
LAKE COUNTY DIVISION OF TRANSPORTATION
ENGINEERING SERVICES - MANHOUR SUMMARY

		Task Manhours	Total Manhours
12- QA/QC			
	Review of milestone Submittals	125	
	Total task manhours		**125**
13- MANAGE PROJECT			
	Administration - 4 hrs/month at 18 months	72	
	Total task manhours		**72**
	TOTALS	**3587**	**3587**

PAYROLL ESCALATION TABLE
FIXED RAISES

FIRM NAME	**Baxter & Woodman, Inc.**			**DATE**	**03/14/17**
PRIME/SUPPLEMENT	**PRIME**			**PTB NO.**	**N/A**
	CONTRACT TERM	**18**	**MONTHS**	**OVERHEAD RATE**	**144.80%**
	START DATE	**4/15/2017**		**COMPLEXITY FACTOR**	
	RAISE DATE	**1/1/2018**		**% OF RAISE**	**3.00%**

ESCALATION PER YEAR

4/15/2017 - 1/1/2018	1/2/2018 - 10/1/2018			
9 / 18	9 / 18			
= 50.00%	51.50%			
= 1.0150				

The total escalation for this project would be: **1.50%**

Exhibit A

Subconsultants

FIRM NAME **Baxter & Woodman, Inc.** **DATE** **03/14/17**
PRIME/SUPPLEMENT **PRIME**
PSB NO. **N/A**

NAME	Direct Labor Total	Contribution to Prime Consultant
Interra, Inc.	2,081.56	208.16
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
Total	2,081.56	208.16

Stearns School Road at US Hwy 41 - Phase I Study

Exhibit D

Route: **Stearns School Road at US Hwy 41**
Local Agency: **Lake County, IL**
(Municipality)
Section:
Project:
Job No.:

*Firm's approved rates on file with **Bureau of Accounting and Auditing:**

Overhead Rate	144.8%
Complexity Factor	0.00
Calendar	

Method of Compensation:

Cost Plus Fixed Fee 1	☑	14.5%[DL + R(DL) + OH(DL) + IHDC]
Cost Plus Fixed Fee 2	☐	14.5%[DL + R(DL) + 1.4(DL) + IHDC]
Cost Plus Fixed Fee 3	☐	14.5%[(2.3 + R)DL + IHDC]
Specific Rate	☐	
Lump Sum	☐	

Cost Estimate of Consultant's Services in Dollars

ELEMENT OF WORK	EMPLOYEE CLASS.	MANHOURS	PAYROLL RATE	PAYROLL COSTS (DL)	OVERHEAD	SERVICES BY OTHERS	IN-HOUSE DIRECT COSTS	PROFIT	TOTAL
Early Coordination and Data Collection		260		10,139.88	14,682.55		2,633.40	3,981.10	31,436.93
Topographic Survey		308		11,915.13	17,253.10		720.00	4,333.79	34,222.02
Traffic Analysis		100		4,184.39	6,059.00			1,485.29	11,728.68
Alternative Analysis		256		10,927.05	15,822.36			3,878.66	30,628.07
Preliminary Design of Preferred Alternative		682		28,173.52	40,795.26			10,000.47	78,969.25
Drainage Analyis	See	514	See	21,617.88	31,302.68		100.00	7,687.98	60,708.54
Environmental Coordination and Permitting	Payroll	274	Payroll	13,211.26	19,129.90		800.00	4,805.47	37,946.64
Meetings and Public Involvement	Rates	656	Rates	29,273.99	42,388.73		5,722.00	11,220.78	88,605.50
Project Development Report		196		7,859.09	11,379.96		1,000.00	2,934.66	23,173.70
Geotechnical Report		8		381.23	552.03	14,976.74		135.32	16,045.32
Right-of-way and Boundary		136		6,303.56	9,127.55		5,000.00	2,962.51	23,393.62
QAQC		125		7,167.15	10,378.03			2,544.05	20,089.22
Manage Project		72		3,074.48	4,451.84			1,091.32	8,617.64
TOTALS		**3,587**		**154,228.59**	**223,322.99**	**14,976.74**	**15,975.40**	**57,061.40**	**465,565.12**

AVERAGE HOURLY PROJECT RATES

FIRM Baxter & Woodman, Inc.
PSB N/A
PRIME/SUPPLEMENT PRIME

DATE 03/14/17

SHEET 1 OF 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Early Coordination and Data Collection			Topographic Survey			Traffic Analysis			Alternative Analysis			Preliminary Design of Preferred Alternative		
		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	70.00	59	1.64%	1.15	2	0.77%	0.54				2	2.00%	1.40	8	3.13%	2.19	8	1.17%	0.82
Sr. Engineer IV	61.65	68	1.90%	1.17															
Sr. Engineer III	51.97	230	6.41%	3.33										24	9.38%	4.87	42	6.16%	3.20
Sr. Engineer II	47.65	1024	28.55%	13.60	118	45.38%	21.63	32	10.39%	4.95	34	34.00%	16.20	88	34.38%	16.38	120	17.60%	8.38
Sr. Engineer I	42.77	240	6.69%	2.86							40	40.00%	17.11				120	17.60%	7.53
Engineer III	35.77	0																	
Engineer II	29.72	508	14.16%	4.21	124	47.69%	14.17				24	24.00%	7.13	80	31.25%	9.29			
Engineer I	27.68	152	4.24%	1.17													152	22.29%	6.17
Sr Geologist I	48.72	80	2.23%	1.09															
Engineer Tech V	51.25	224	6.24%	3.20				60	19.48%	9.98				16	6.25%	3.20			
Engineer Tech IV	43.12	0																	
Engineer Tech III	37.99	0																	
Engineer Tech II	31.48	172	4.80%	1.51				172	55.84%	17.58									
Engineer Tech I	22.46	0																	
Cadd Tech IV	43.22	760	21.19%	9.16	16	6.15%	2.66	44	14.29%	6.17				40	15.63%	6.75	240	35.19%	15.21
Cadd Tech III	35.05	0																	
Cadd Tech II	31.90	0																	
Cadd Tech I	26.90	0																	
Clerical I	21.57	0																	
Clerical II	27.84	70	1.95%	0.54															
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
TOTALS		3587	100%	$43.00	260	100.00%	$39.00	308	100%	$38.69	100	100%	$41.84	256	100%	$42.68	682	100%	$41.31

AVERAGE HOURLY PROJECT RATES

FIRM Baxter & Woodman, Inc.
PSB N/A
PRIME/SUPPLEMENT PRIME

DATE 03/14/17

SHEET 2 **OF** 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Drainage Analyis			Environmental Coordination and Permitting			Meetings and Public Involvement			Project Development Report			Geotechnical Report			Right-of-way and Boundary		
		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	70.00							30	4.57%	3.20	4	2.04%	1.43						
Sr. Engineer IV	61.65	8	1.56%	0.96															
Sr. Engineer III	51.97	60	11.67%	6.07	4	1.46%	0.76	40	6.10%	3.17									
Sr. Engineer II	47.65	140	27.24%	12.98	18	6.57%	3.13	240	36.59%	17.43	76	38.78%	18.48	8	100.00%	47.65	96	70.59%	33.64
Sr. Engineer I	42.77							80	12.20%	5.22									
Engineer III	35.77																		
Engineer II	29.72	140	27.24%	8.09	16	5.84%	1.74	64	9.76%	2.90	60	30.61%	9.10						
Engineer I	27.68																		
Sr Geologist I	48.72				80	29.20%	14.22												
Engineer Tech V	51.25				136	49.64%	25.44	12	1.83%	0.94									
Engineer Tech IV	43.12																		
Engineer Tech III	37.99																		
Engineer Tech II	31.48																		
Engineer Tech I	22.46																		
Cadd Tech IV	43.22	166	32.30%	13.96	16	5.84%	2.52	158	24.09%	10.41	40	20.41%	8.82				40	29.41%	12.71
Cadd Tech III	35.05																		
Cadd Tech II	31.90																		
Cadd Tech I	26.90																		
Clerical I	21.57																		
Clerical II	27.84				4	1.46%	0.41	32	4.88%	1.36	16	8.16%	2.27						
TOTALS		514	100%	$42.06	274	100%	$48.22	656	100%	$44.62	196	100%	$40.10	8	100%	$47.65	136	100%	$46.35

AVERAGE HOURLY PROJECT RATES

FIRM Baxter & Woodman, Inc.
PSB N/A
PRIME/SUPPLEMENT PRIME

DATE 03/14/17

SHEET 3 **OF** 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	QAQC			Manage Project														
		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	70.00	5	4.00%	2.80															
Sr. Engineer IV	61.65	60	48.00%	29.59															
Sr. Engineer III	51.97	60	48.00%	24.94															
Sr. Engineer II	47.65				54	75.00%	35.74												
Sr. Engineer I	42.77																		
Engineer III	35.77																		
Engineer II	29.72																		
Engineer I	27.68																		
Sr Geologist I	48.72																		
Engineer Tech V	51.25																		
Engineer Tech IV	43.12																		
Engineer Tech III	37.99																		
Engineer Tech II	31.48																		
Engineer Tech I	22.46																		
Cadd Tech IV	43.22																		
Cadd Tech III	35.05																		
Cadd Tech II	31.90																		
Cadd Tech I	26.90																		
Clerical I	21.57																		
Clerical II	27.84				18	25.00%	6.96												
TOTALS		125	100%	$57.34	72	100%	$42.70	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00

PAYROLL RATES

FIRM NAME **Baxter & Woodman, Inc.** **DATE** **03/14/17**
PRIME/SUPPLEMENT **PRIME**
PSB NO. **N/A**

ESCALATION FACTOR **1.50%**

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
Principal	$70.00	$70.00
Sr. Engineer IV	$60.74	$61.65
Sr. Engineer III	$51.20	$51.97
Sr. Engineer II	$46.95	$47.65
Sr. Engineer I	$42.14	$42.77
Engineer III	$35.24	$35.77
Engineer II	$29.28	$29.72
Engineer I	$27.27	$27.68
Sr Geologist I	$48.00	$48.72
Engineer Tech V	$50.49	$51.25
Engineer Tech IV	$42.48	$43.12
Engineer Tech III	$37.43	$37.99
Engineer Tech II	$31.01	$31.48
Engineer Tech I	$22.13	$22.46
Cadd Tech IV	$42.58	$43.22
Cadd Tech III	$34.53	$35.05
Cadd Tech II	$31.43	$31.90
Cadd Tech I	$26.50	$26.90
Clerical I	$21.25	$21.57
Clerical II	$27.43	$27.84

STEARNS SCHOOL ROAD (CH 74) AT U.S. HIGHWAY 41
LAKE COUNTY DIVISION OF TRANSPORTATION
ENGINEERING SERVICES - EXPENSE SUMMARY

	Travel					
	Miles @$0.54	Days @$65	Mileage Cost	Postage	Copies (Outside)	Additional Expense
1- EARLY COORDINATION AND DATA COLLECTION						
Vehicle Expense (10 - 61 miles @ $0.54/mi)	610		$329.40			
Miovision ($24/hr/intersection) = 4 loc. X 24 hrs x $24 x 1 setups						$2,304.00
2- TOPOGRAPHIC SURVEY						
Vehicle Expense (Topographic)		9	$585.00			
Vehicle Expense (Tree Survey) 2 - 61 miles @ $0.54/mi	122		$65.88			
Vehicle Expense (County Research) 2 - 64 miles $0.54/mi	128		$69.12			
3- TRAFFIC ANALYSIS						
4- ALTERNATIVE ANALYSIS						
5- PRELIMINARY DESIGN OF PREFERRED ALTERNATIVE						
6- DRAINAGE ANALYSIS						
2 submittals to LCDOT and IDOT				$100.00		
7- ENVIRONMENTAL COORDINATION AND PERMITTING						
Database research and equipment rental				$ 800.00		
8- MEETINGS AND PUBLIC INVOLVEMENT						
Vehicle Expense (30 - 60 miles @ $0.54)	1800		$972.00			
Postcards/Advertising				$250.00	$2,000.00	
Exhibits					$1,000.00	
Facility Rental (2 meetings @ $250/meeting)					$500.00	
Court Reporter					$1,000.00	
9- PROJECT DEVELOPMENT REPORT						
Draft PDR				$ 250.00	$250.00	
Final PDR				$ 250.00	$250.00	
10 - GEOTECHNICAL REPORT						
11- RIGHT OF WAY AND BOUNDARY						
Wheatland Titles - 10 parcels @ $500/parcel						$5,000.00
12- QA/QC						
13- MANAGE PROJECT						
Subtotals	**2,660**	**miles**	**$2,021.40**	**$1,650.00**	**$5,000.00**	**$7,304.00**

Total Expenses **$15,975.40**

Miovision Rate Card - Video Processing

Switch to Traffic Data On Demand Prici

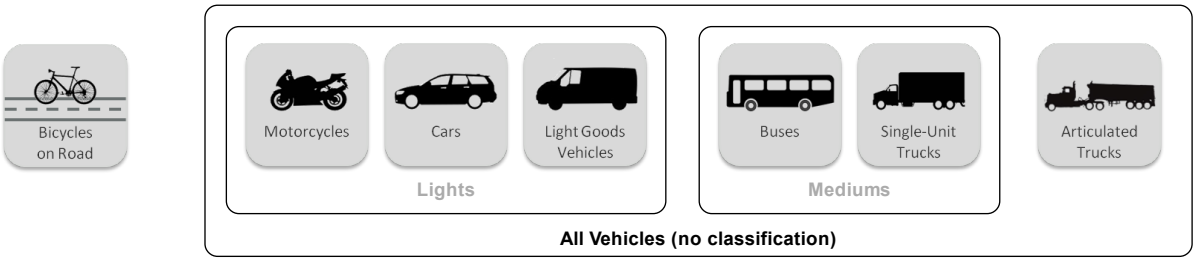
Traffic Data Types	Standard Rate **Includes any Standard Classification**	Premium Rate **Includes any Premium Classification**	Add Crosswalk **Pedestrian and Bicycle Dat**
Intersection Count	$24.00 / hr	$28.00 / hr	+ $2.00 / hr for Pedestrians and/or Bicycle on Crosswalks
Intersection Count (24+ hr studies)	$16.66 / hr	$18.75 / hr	
Small Roundabout Counts (with single camera)	$36.00 / hr	$39.00 / hr	
Large Roundabout Counts (with multiple cameras)	$76.00 / hr	$79.00 / hr	
Road Volume Count	$2.00 / lane / hr	$3.00 / lane / hr	N/A
Pedestrian Junction Count	$18.00 / hr	N/A	N/A
Pedestrian Pathway Volume	$6.00 / pathway / hr	N/A	N/A

Specialty Data Types	
License Plate Data	$50.00 / lane / hr
License Plate Data with Classification	$63.00 / lane / hr
Vehicle Gap Data	$29.00 / hr

Other Fees	
Video Storage	Included
Standard 72 Hour Turnaround	Included
Rush 48 Hour Turnaround	+ $3.00 / hr
Rush 24 Hour Turnaround	+ $7.00 / hr
Intersection Right Turn on Red	+ $1.25 / approach / l
Custom Data Processing and Report Configuration	Please inquire

Standard Classification Options
All Vehicles (no classification)
Lights / Other Vehicles
Motorcycles / Other Vehicles
Lights / Mediums / Articulated Trucks
Lights / Buses / Trucks
Motorcycles / Cars & Light Goods / Other Vehicles

Premium Classification Options
Lights / Buses / Single-Unit Trucks / Articulated Trucks
Motorcycles / Cars / Light Goods / Buses / Single-Unit Trucks / Articulated Trucks
Add Bicycles on Road



INTERRA
Engineering • Inspection • Testing

600 Territorial Drive, Suite G
Bolingbrook, IL 60440

p: 630-754-8700
f: 630-754-8705

Proposal No. 3506
3/14/2017

Mr. Jim McNally, PE
Baxter & Woodman, Inc.
8678 Ridgefield Rd.
Crystal Lake, IL 60012

PROPOSAL
Geotechnical Investigation
Roadway Improvements
Stearns School Road at US 41
Lake County Division of Transportation
Lake County, Illinois

Dear Mr. McNally:

Interra, Inc. (INTERRA) is pleased to submit this proposal to perform to geotechnical subsurface soil exploration for the above referenced project in Lake County, Illinois.

Proposed Scope of Work

Our scope of work includes locating and drilling seven (7) roadway soil borings, and five (5) pavement cores. The borings will be spaced approximately 300 feet apart. Proposed boring and core locations are presented in the attached Exhibits. The general distribution of the pavement cores and soil borings is presented below:

Pavement Cores:

- US 41 – 3 total
- Stearns School Road – 2 total

Roadway Geotechnical Borings:

- US 41, Southbound right turn lane – 2 total
- US 41, Southbound turning movement at Stearns School Road – 1 total
- Stearns School Road – 4 total

INTERRA
Engineering • Inspection • Testing

600 Territorial Drive, Suite G
Bolingbrook, IL 60440

p: 630-754-8700
f: 630-754-8705

The roadway borings will be drilled to a depth of 10.0 feet each from the existing ground/pavement. The roadway borings will be spaced approximately 300 feet apart and staggered, in general accordance with the Illinois Department of Transportation (IDOT) Geotechnical Manual guidelines.

The location of the borings will be finalized upon consultation with the client. Baxter & Woodman's survey crew will mark the boreholes in the field and obtain the Northing, Easting (or stations) and elevation. The location of the borings will be adjusted based on field conditions, accessibility and utility conflicts. The borings will be drilled on the shoulders or adjacent to shoulders on US 41 and in parkway adjacent to curb & gutter on Stearns School Road. Lane closures will not be used for the soil borings. IDOT Traffic Control & Protection Standards will be followed for US 41 and Lake County Division of Transportation's (LCDOT) Standards will be followed for Stearns School Road. Pavement cores will be obtained near the edge of the pavement. Traffic control is not anticipated but included as a direct cost, if necessary. IDOT permits will be obtained by the driller prior to commencement of drilling.

The local one-call underground utility service will be contacted by the driller to obtain clearances at least two working days before drilling. The borings will be drilled with a truck-mounted drill rig. Soil sampling in the borings will be performed in general accordance with American Society for Testing and Materials (ASTM) standards, D 1586 "Penetration Test and Split Barrel Sampling of Soils". Observation for groundwater will be made during and immediately after the completion of the drilling. After the completion of the drilling, the boreholes will be backfilled with the soil auger cuttings from the same borehole. The surface will be patched with asphalt to match surrounding elevations.

All field sampling and laboratory testing will be performed in accordance with IDOT specifications. Laboratory testing includes moisture content tests, unconfined compressive strength tests using a pocket penetrometer on all recovered soil samples. Atterberg Limits, grainsize analysis, unconfined compressive strength tests and Organic Content tests will be performed on selected samples recovered from the borings. Atterberg Limits, Grain Size Analysis, Standard Proctor tests and Illinois Bearing Ratio tests will be performed on bulk

samples recovered from the proposed roadway areas. Photo logs of the pavement cores will be provided. Draft Roadway Geotechnical Report (RGR) will be provided in accordance with accordance with the IDOT Geotechnical Manual guidelines. The draft report will be followed by Final report which will address any review comments.

Cost Estimate

The cost to provide the above mentioned services is provided in the attached CECS and Direct Costs estimate. If the scope of work is increased or decreased, the final invoice amount will be calculated according to the unit rates in the attached CECS and Direct Costs estimate.

Schedule

The fieldwork could be started within a few days of receiving authorization to proceed. We anticipate the fieldwork to be completed in one to two days. Pre-drilling and post-drilling meetings or conference calls will be conducted. The final geotechnical report will be issued within three weeks of completion of field work.

INTERRA very much appreciates the opportunity to submit this proposal. Should you at any time require any additional information or clarifications, please do not hesitate to call us.

Very truly yours,

Interra, Inc.

Sanjeev Bandi, Ph.D., P.E.

Project Manager


Stearns School Rd
Spruce Pointe Ct
Spruce Pointe Dr
Conifer Ln
Fuller Rd
Red Pine Ave
Pine Ct
Skokie Hwy
41
© 2016 Google
Roadway Boring (7)
Pavement Core (5)
1993
Imagery Date: 6/26/2016 42°23'30.16" N 87°55'41.24" W elev 702 ft eye

PAYROLL ESCALATION TABLE
FIXED RAISES
COST PLUS FIXED FEE

FIRM NAME	Interra, Inc.	**DATE**	02/14/17
PRIME/SUPPLEMENT	Prime	**PTB NO.**	Stearns School Rd at US 41

CONTRACT TERM	6	**MONTHS**	**OVERHEAD RATE**		164.30%
START DATE	3/1/2017		**COMPLEXITY FACTOR**		0
RAISE DATE	1/1/2018		**% OF RAISE**		3.00%

ESCALATION PER YEAR

3/1/2017 - 8/31/2017				
6				
6				

= 100.00%
= 1.0000

The total escalation for this project would be: **0.00%**

PREPARED BY THE CONSULTANT

PAYROLL RATES

FIRM NAME Interra, Inc. **DATE** 02/14/17
PRIME/SUPPLEMENT Prime
PSB NO. Stearns School Rd at US 41

ESCALATION FACTOR 0.00%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
Project Manager	$70.00	$70.00
Project Geologist	$26.00	$26.00
Geotechnical Engineer	$70.00	$70.00
Staff Engineer	$27.66	$27.66
Project Engineer	$62.95	$62.95
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
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		$0.00

PREPARED BY THE CONSULTANT

Subconsultants

FIRM NAME Interra, Inc. **DATE** 02/14/17
PRIME/SUPPLEMENT Prime
PSB NO. Stearns School Rd at US 41

NAME	Direct Labor Total	Contribution to Prime Consultant
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
Total	0.00	0.00

PREPARED BY THE CONSULTANT

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

FIRM Interra, Inc. **DATE** 02/14/17

PSB Stearns School Rd at US 41 **OVERHEAD RATE** 1.643

PRIME/SUPPLEMENT Prime **COMPLEXITY FACTOR** 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	Outside Direct Costs (F)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
DBE	Project Management	4	280.00	460.04		103.60			843.64	843.64	5.63%
DBE	Field Engineering	22	572.00	939.80		211.64			1,723.44	1,723.44	11.51%
DBE	Geotechnical Report	18	949.56	1,560.13	2,015.00	351.34	6,690.00		11,566.02	11,566.02	77.23%
DBE	QA/QC	2	140.00	230.02		51.80			421.82	421.82	2.82%
DBE	Post Contract Coordinatic	2	140.00	230.02		51.80			421.82	421.82	2.82%
	Subconsultant DL					0.00				0.00	0.00%
	TOTALS	48	2,081.56	3,420.00	2,015.00	770.18	6,690.00	0.00	14,976.74	**14,976.74**	100.00%

DBE 100.00%

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AVERAGE HOURLY PROJECT RATES

FIRM Interra, Inc.
PSB Stearns School Rd at US 41
PRIME/SUPPLEMENT Prime

DATE 02/14/17

SHEET 1 OF 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Project Management			Field Engineering			Geotechnical Report			QA/QC			Post Contract Coordinati		
		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	70.00	4	8.33%	5.83	4	100.00%	70.00												
Project Geologist	26.00	22	45.83%	11.92				22	100.00%	26.00									
Geotechnical Engine	70.00	8	16.67%	11.67							4	22.22%	15.56	2	100.00%	70.00	2	100.00%	70.00
Staff Engineer	27.66	6	12.50%	3.46							6	33.33%	9.22						
Project Engineer	62.95	8	16.67%	10.49							8	44.44%	27.98						
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TOTALS		48	100%	$43.37	4	100.00%	$70.00	22	100%	$26.00	18	100%	$52.75	2	100%	$70.00	2	100%	$70.00

PREPARED BY THE CONSULTANT

Illinois Department of Transportation

Direct Costs Check Sheet

Firm Name: Interra, Inc. PTB/Item No: Stearns School at US 41

REQUIRED – DIRECT COSTS WILL ONLY BE ACCEPTED FOR INCLUSION IN CONTRACT WHEN DOCUMENTED ON THIS FORM.
(Indicate only rate and quantities for this specific project.)

Item	Allowable	Contract (1) Rate	Quantity (n/a for work orders)	Total
Mobilization of Drill Rig	Actual Cost	$1,000.00	1.00	$1,000.00
Project coord, utility location	Actual Cost	$125.00	4.00	$500.00
Boring to boring mobilization	Actual Cost	$300.00	1.00	$300.00
Crew per diem	Actual Cost	$250.00	0.00	$0.00
Soil Drilling with augers and split-spoon sampling	Actual Cost	$23.00	70.00	$1,610.00
Pavement cores	Actual Cost	$75.00	5.00	$375.00
Thin Wall tube (TWT)	Actual Cost	$30.00	0.00	$0.00
Jars per case of 12	Actual Cost	$15.00	3.00	$45.00
Bulk Samples	Actual Cost	$300.00	1.00	$300.00
Traffic Control with flaggers	Actual Cost	$2,200.00	1.00	$2,200.00
Pavement patching	Actual Cost	$30.00	12.00	$360.00
Driller Standby time, hourly	Actual Cost	$300.00	0.00	$0.00
Atterberg Limits	Actual Cost	$135.00	1.00	$135.00
Grainsize Analysis with Hydrometer	Actual Cost	$185.00	1.00	$185.00
pH of Soil	Actual Cost	$30.00	1.00	$30.00
Core thickness	Actual Cost	$70.00	5.00	$350.00
Illinois Bearing Ratio	Actual Cost	$700.00	1.00	$700.00
Moisture Content and Penetrometer	Actual Cost	$15.00	28.00	$420.00
Organic Content	Actual Cost	$55.00	0.00	$0.00
Unconfined Compressive Strength	Actual Cost	$85.00	0.00	$0.00
Vehicle days	Actual Cost	$65.00	3.00	$195.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
TOTAL				$8,705.00

1) Used to determine upper limit of compensation for direct cost. Unless maximum is specified under allowable, bill at actual cost.

PROJECT MILESTONE SCHEDULE

Local Agency: Lake County Division of Transportation
Project: Stearns School Road at US Hwy 41
Scope of Work: Intersection Improvements
TIP #:
TIP Years (Ph II / Const):
Section #: 16-00222-02-CH
Last Constr & E3 Cost (date): $
Current Constr & E3 Cost (date:): $

Contact Information

County	Darrell Kuntz
Council/Liaison	
Consultant	Baxter & Woodman, Inc
IDOT	Alex Househ

Date Prepared: 2/15/2017 Date Revised:

Projected Dates

	Initial Est.	Kick-Off	Revised/Actual	Notes
1. Project Scoping	N/A			
2. IDOT Phase I Kick-off Meeting	5/17/2017			
3. 1st State/Federal Coordination Meeting	11/1/2017			
4. Categorical Exclusion Concurrence	11/1/2017			Initial Public Meeting 11/14/2017
5. Design Variance Concurrence	5/1/2018			
6. Submit Draft Phase I Report (PDR) to IDOT (a)	6/1/2018			
7. Public Hearing/Meeting (or N/A)	6/27/2018			
8. Right-of-Way Kick-off Meeting (or N/A)	8/1/2018			
9. Submit Final Phase I Report (PDR) to IDOT (b)	9/1/2018			
10. Submit Phase II Engr. Agreem't to IDOT (or N/A)	N/A			
11. Phase I Design Approval	10/15/2018			
12. ROW Aquistion Initiation (or N/A) (c)	11/15/2018			Plats and Legals will be prepared in Phase I
13. Phase II Engr. Agreement Approval (or N/A)	N/A			Assumed Ph II agreement will be in place by 11/15/2018
14. Submit Pre-Final Plans and Estimates (d)	8/1/2020			
15. Submit Phase III Engr. Agreement to IDOT	N/A			
16. Submit Final Plans, Specs & Estimates (PS&E) (e)	10/1/2020			
17. ROW Acquisition Complete	11/1/2020			
18. Construction Letting	1/20/2021			

Notes:

(a) 3 to 6 month review required per complexity and submittal quality
(b) 1 to 3 month review
(c) Minimum 9 to 18 months required from plats to acquisition
(d) 1 to 4 month review
(e) 7 to 10 days before Springfield BLR due date

See IDOT Local Roads' **Mechanics of Project Management** "Federal Aid Project Initiation to Completion" Flow Chart for sequence of events and estimated review times.