

Municipality	L O C A L A G E N C Y	 Illinois Department of Transportation	C O N S U L T A N T	Name STV Incorporated	DRAFT
Township				Address 200 W. Monroe Street, Suite 1650	
County Lake County – Division of Transportation		Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds		City Chicago	
Section 14-00144-20-CH				State Illinois	

THIS AGREEMENT is made and entered into this _____ day of May, 2015 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 Ela Road and Long Grove Road Intersection Improvement

Route CH57 & CH49 Length 4900.00 Mi. 0.93 FT (Structure No. N/A)

Termini Ela Rd - 1800' south of Long Grove Rd and 1850' north of Long Grove Rd, Long Grove Rd - 1250' east of Ela Rd

Description:

Phase I Engineering, based on federal project development procedures, for improvement to the intersection of Ela Road and Long Grove Road.

Agreement Provisions

The Engineer Agrees,

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

- j. ☒ Prepare the necessary environmental documents in accordance with the procedures adopted by the DEPARTMENT's Bureau of Local Roads & Streets.
 - k. ☒ Prepare the Project Development Report when required by the DEPARTMENT.
 - l. ☒ **Services as included and/or defined in the attached Scope of Services.**
2. That all reports, plans, plats and special provisions to be furnished by the ENGINEER pursuant to the AGREEMENT, will be in accordance with current standard specifications and policies **of the LA 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	(see note)
Under \$50,000	_____	%
	_____	%
	_____	%

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

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

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

The Total Not-to-Exceed Contract Amount shall be \$630,657.80

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 188 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 188 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:

ATTEST:

By

Lake County

Clerk

(Seal)

County of Lake

(Municipality/Township/County)

of the

State of Illinois, acting by and through its

County Board

By

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:

ATTEST:

By

Title

Engineering Firm

Street Address

City, State

By

Title

Ela Road (CH 57) and Long Grove Road (CH 49) Intersection

Lake County, Illinois Section 14-00144-20-CH

Phase I Engineering Scope of Work April 2015

This project includes Phase I Engineering and Environmental Studies (Phase I Study) for improvements to the intersection of Ela Road (CH 57) and Long Grove Road (CH 49). This project is located within the municipal boundaries of the Village of Barrington, Village of Deer Park and Unincorporated Ela Township. This project is anticipated to include intersection improvements to address existing capacity and safety deficiencies and to accommodate projected future travel demand for the year 2040. Alternatives will be evaluated at the intersection and coordinated with project stakeholders to gain their input as part of an ultimate determination of the preferred alternative. The limits of the Phase I Study are anticipated to be as follows based on an initial scoping discussion with LCDOT staff on March 16th, 2015.

Ela Road at Long Grove Road

The limit of improvements along Ela Road and Long Grove Road associated with this intersection improvement study will vary based on the alternatives considered at each location. Both conventional and roundabout alternatives are being considered for this location. Additionally, initial traffic projections indicate that a multi-lane roundabout or a 5-lane cross section alternative may be required to meet 2040 traffic demand. Due to the potential impacts a 5-lane cross section would create and the lack of additional through lane capacity north and south of this intersection, a 5-lane conventional signalized intersection is not anticipated to be the preferred alternative for this intersection. Hence, the preferred alternative may need to be considered an “interim” improvement to improve safety, mobility and multi-modal accommodations. Scope for survey, geotechnical investigations and design have been estimated on the assumption that a five-lane traditional signalized intersection alternative will be dismissed early on in the process.

Depending on the preferred alternative selected, asymmetrical widening may be required to minimize impacts to the Cuba Marsh Forest Preserve, west of Ela Road, to satisfy Section 4(f) consultation requirements. The existing 2-lane pavement section along Ela Road tapers to a three lane cross section approximately 1,100’ south of the study intersection at Fox Glove Lane (south intersection).

For purposes of the topographic survey and the environmental surveys, the potential limit of

improvements along Ela Road will extend from a point approximately 1,800' south of the intersection of Long Grove Road, to a point approximately 1,850' north of the intersection of Long Grove Road, a distance of approximately 3,650 feet. The limits along Long Grove Road will extend 1,250 feet to the east of Ela Road.

On this basis, the total length of topographic surveys, environmental surveys, and potential improvements is approximately 4,900 feet or 0.93 miles.

The Phase I Study for this project will follow federal project development procedures to ensure eligibility for federal funding as part of project development after completion of the Phase I Study. On this basis, project development will be coordinated with the Illinois Department of Transportation - Bureau of Local Roads and Streets (IDOT-BLRS) and the Federal Highway Administration (FHWA) for reviews and for Phase I Design Approval.

It is anticipated that Phase I Engineering will be documented via a Project Development Report (IDOT-BLR form 22210 – Categorical Exclusion Group II).

A public involvement program utilizing a Stakeholder Involvement Group (SIG) as well as coordination with individual stakeholders as appropriate will be a key part of the project development process, which is described further as part of Task 11.

The following describes the individual work tasks included in the overall scope of work for this Phase I Study.

Task 1 - Data Collection, Compilation, Review and Evaluation

This task includes obtaining all pertinent data required to proceed with the Phase I Study. Coordination will occur with LCDOT, IDOT, the Lake County Stormwater Management Commission (LCSMC), the Village of Barrington, Village of Deer Park, Ela Township, Lake County Forest Preserve District (LCFPD), and all other agencies necessary to obtain base data for the project area, including but not necessarily limited to the following information:

- Record roadway and drainage plans, including previous studies/reports, and contract plans for past Ela Road and Long Grove Road projects.
- Recorded centerline and right-of-way plans for Ela Road and Long Grove Road.
- Available traffic data.
- Available crash data.
- Available survey data and control data for tying to the Lake County LiDAR mapping.
- Existing and proposed land use and zoning maps, including School Districts, Park Districts, Forest Preserve Districts, Sanitary/Drainage Districts, and Bike/Pedestrian plans as pertinent/available.
- Soils and geological information.
- Public and private utility plans (STV will work with the LCDOT utility coordinator to obtain

this information).

- USGS maps and Flood Insurance Rate Maps.
- Public Service routes including Bus, Mail, and Emergency Services.

STV will coordinate with the Lake County GIS Department to obtain available GIS data for the study area, including aerial photography, LiDAR contour mapping, environmental resources, property lines, roadway names, etc.

STV will determine facility deficiencies based on information gathered, and prepare exhibits of the data collected as appropriate for use as part of other project tasks. This task will include field review of the project area, and contact with key stakeholders within the project area, including the Village of Barrington, Village of Deer Park, Ela Township, LCFPD, and LCSMC to retrieve appropriate base project data.

Using information obtained in this task, STV will prepare an Environmental Survey Request (ESR) for electronic submittal to IDOT BLR. The ESR submittal will include the completion of the required application form and transmittal of aerial drawings with the ESR limits clearly noted on the plans. This information will be submitted in anticipation of obtaining required Phase I environmental clearances on this project through IDOT BLR.

Specific work items under this task will include:

- Initial project field review(s).
- Project data collection including contact/meetings with key project stakeholders.
- Coordination to obtain base project mapping data (LiDAR) and Lake County GIS data.
- Review, analyze and catalog project data.
- Determine facility deficiencies.
- Preparation and submittal of Environmental Survey Request (ESR)

Task 2 - Topographic Survey

The survey work for this project will be prepared by **Environmental Design International, Inc. (EDI)**, as a subconsultant.

This task includes completion of topographic surveys within the project limits in accordance with LCDOT Survey Procedures which are included as Attachment A. As noted above, this includes approximately 4,900 feet or 0.93 miles of topographic survey along Ela Road and Long Grove Road.

STV will coordinate with LCDOT to prepare a survey right-of-entry letter for survey work on private property. STV will contact property owners, to the extent possible, in advance of surveying on private property.

The survey will be prepared to be used for both Phase I and Phase II Engineering Services. The

topographic survey will extend 20 feet beyond the existing right-of-way line, beyond which the Lake County LiDAR mapping (1 foot contours) will be used. Supplemental field survey within the scope areas that is required to resolve LiDAR mapping voids or to resolve other topographic uncertainties shall be identified in advance of any field data collection. To ensure sufficient data is collected for possible roundabouts, the topographic survey will extend to a 300 feet by 300 feet square area at the Ela Road and Long Grove Road intersection.

On this basis, EDI will perform the following survey tasks in accordance with applicable Lake County Survey Procedures:

Horizontal Control: Utilizing state plane coordinates, EDI will set recoverable primary control utilizing GPS and robotic total station equipment. It is assumed that the control for the one-foot contour Lake County LiDAR mapping is Illinois State Plane East, NAD83 (2011).

Vertical Control: Since the nearest NGS Benchmarks are over 4 miles away from the project site, it is assumed that either LCDOT has benchmarks available in the vicinity of the project or that EDI will be allowed to establish vertical control (NAVD88) utilizing GPS and the nearest NGS vertical monuments. A level circuit within the above identified survey limits will be run to establish benchmarks and assign elevations to the horizontal control points.

Existing Right-of-Way: EDI will establish the approximate existing right-of-way along Ela Road and Long Grove Road within the identified survey limits, based on monumentation found in the field, and based on available plats of highways, subdivision plats and any other available information.

Topographic Survey: EDI will field locate all pavements, driveways, curb and gutters, pavement markings, signs, drainage structures, driveway culverts, cross road culverts, and other planimetric features within the above noted survey limits.

Cross Sections: EDI will survey cross sections at 50' intervals within the survey limits, at driveways, roadway culverts, and at all other grade controlling features. The cross sections will extend 20 feet beyond the existing right-of-way line.

Utility Survey: All visible storm and sanitary sewers will be surveyed to determine rim and invert elevations, pipe sizes and directions. Above ground facilities of any additional underground utilities including water main, gas, electric, cable, etc. will also be located. STV will work with the LCDOT Utility Coordinator to retrieve existing utility plans and to determine if any JULIE locates will be required for the Phase I Study.

Tree Survey: EDI will locate and size all trees 6 inches in diameter breast height (dbh) and greater within the above noted survey limits, with the exception of trees surveyed within LCFPD property. All trees within LCFPD property will be located, regardless of dbh, in accordance with LCFPD policies. The tree survey will extend 20 feet outside of the existing right-of-way where practical. Contingent upon the preferred alternative for each intersection, additional tree survey outside of these limits could be required, which would be completed as part of supplemental survey.

Base Mapping: EDI will compile all of the above information into one base map at 1'=20' scale that is representative of existing conditions for use in all Phase I and Phase II engineering work in developing the detailed plan, profile and cross sections for the preferred alternative.

Supplemental Field Survey: EDI will perform supplement field surveys as necessary over the duration of the project to resolve conflicts such as utilities, drainage features, etc., to complete LiDAR mapping voids due to trees/brush, to pick-up any new developments/features along the corridor as required, and to pick-up additional tree survey areas if required based on the preferred alternative at each intersection.

Specific work items under this task will include:

- Coordination with LCDOT for survey right-of-entry letter.
- Coordination with LCDOT Utilities Coordinator.
- Completion of topographic survey.
- Completion of survey for BFE determination.
- Supplemental survey.

Task 3 - Traffic Counts, Projections and Analysis

This task includes the following work related to collection of existing traffic data, development of 2040 traffic projections, and the associated traffic analysis.

Traffic Volume Counts: Video traffic counts, which will include through and turning movements and vehicle classifications will be collected by **Quality Counts, LLC** for this project. We will be obtaining 12-hour counts from 6 a.m. to 6 p.m. for the intersection of Ela Road at Long Grove Road. 6-hour counts from 6 a.m. to 9 a.m. and 3 p.m. to 6 p.m. will be obtained at the intersection of Ela Road at Main Street (Lake-Cook Road). Turning movement counts and classifications as well as pedestrian and bicycle counts will be obtained for the following intersections:

- Ela Road at Long Grove Road
- Ela Road at Main Street (Lake-Cook Road)

Bi-directional 2-lane, twenty-four (24) hour roadway traffic counts (via traffic counting tube) will be obtained at the following six location(s):

- Ela Rd south of Main Street, Barrington, IL
- Ela Road north of Main Street, Barrington, IL
- Main Street west of Ela Rd, Barrington, IL
- Main Street east of Ela Rd, Barrington, IL
- Ela Road north of Long Grove, Barrington, IL
- Long Grove east of Ela, Barrington, IL

Traffic Projections and Analysis: STV will develop projected 2040 traffic volumes for the project and will coordinate with the Chicago Metropolitan Agency for Planning (CMAP) to obtain

concurrence on the projections.

The 2040 projected traffic volumes will be analyzed to determine operational deficiencies based on projected traffic volumes and existing geometry as part of the improvement needs determination.

Based on the traffic counts collected and projected 2040 traffic volumes, traffic signal warrants will be evaluated for the intersection. A traffic study conducted by LCDOT on 11/3/10 satisfied 1b, 2 and 3b signal warrants.

STV will obtain an existing LCDOT Synchro model of the Ela Road corridor and will update the model from Lake Cook Road to Cuba Road based on new traffic count information obtained as part of this task. No other updates to the model outside these limits are anticipated. New traffic count information for the intersection of Cuba Road and Ela Road will be provided to STV by LCDOT. The Synchro model will be used to evaluate how proposed alternatives are anticipated to function within the network and identify any network traffic progression concerns.

STV will provide a technical memorandum summarizing the results of the traffic counts, projections and analysis, and the warrant analysis.

HCS 2010 Analysis: An HCS 2010 analysis will be prepared for traditional intersection alternatives for existing conditions and for 2040 No-Build conditions to establish the need for intersection improvements within the timeframe of the regional planning horizon (2040). Additional capacity analysis using HCS 2010 will be performed as part of Task 6 for the initial alternatives feasibility analysis, and as part of Task 8 for the Intersection Design Study (IDS) for the preferred alternative within Tasks 6 and 8 respectively.

Specific work items under this task will include:

- Traffic counts.
- Traffic projections and coordination for CMAP concurrence.
- No-Build capacity analysis.
- Signal Warrant analysis.
- Technical Memorandum.
- HCS 2010 Analysis.

Task 4 - Crash Analysis

This task includes obtaining the last five (5) years of crash data from LCDOT and IDOT including segment and intersection crash data, in order to prepare a project Crash Analysis Report (CAR). Five years of data is now required by IDOT vs previous three year requirement. It is anticipated that the crash data will be available through the LCDOT TCAS system which provides access to State, County and Municipal crash data and collision diagrams. STV will prepare supplemental intersection collision diagrams if necessary within the project study area, and other exhibits as

necessary to summarize the crash data.

In addition, a crash prediction analysis based on procedures outlined in the AASHTO Highway Safety Manual (HSM) will be performed for the intersection based on the two finalist alternatives. A separate technical memorandum summarizing the HSM analysis and results will be prepared.

Specific work tasks will include:

- Obtain Crash Data.
- Develop CAR Format.
- Develop CAR Maps, Tables, and Exhibits.
- Prepare Preliminary CAR for review.
- Prepare Final CAR with disposition of comments.
- Crash Prediction using HSM and technical memorandum.

Task 5 - Roadway Drainage

This task includes development of an Existing Drainage Plan (EDP) and a Proposed Drainage Plan (PDP) within the limits of improvement for the preferred alternative. It is anticipated that the drainage study will follow the IDOT Location Drainage Study (LDS) format for improvements associated with this intersection.

Existing Drainage Plan: Development of the EDP includes an evaluation of existing drainage conditions through a review of record roadway plans, maps, reports and field review. Data collection as part of this task includes obtaining pertinent as-built plans, USGS maps, soils maps, topographic maps, existing FEMA data/studies and other pertinent data. Off-site and on-site drainage areas and existing drainage systems will be delineated on the base project mapping.

STV will coordinate with the Village of Barrington, Village of Deer Park, Ela Township, LCDOT, LCSMC, and LCFPD regarding drainage patterns and concerns, and sensitive drainage areas and/or outfalls. Based on a review of project area mapping, and based on LCSMC requirements (tributary area of 20 acres or more, a depressional storage area with a base flood volume of 0.75 acre-feet or more), it is estimated that a BFE determination will be required at the following depressional area within the project limits:

- Along Ela Road, approximately 700 ft. south of Long Grove Road, on the east side of the roadway

Drainage Investigation - STV will identify drainage problems by researching LCDOT flooding and maintenance records, coordinating with local agencies and conducting site investigations.

Base Floodplains – Identify and document existing floodplains and floodways that potentially cross the project, which for this project includes a mapped floodplain on the west side of Ela Road approximately 1975 ft. north of the intersection. No mapped FEMA floodway zones exist within

the anticipated project limits.

Specific work tasks associated with development of the EDP includes the following:

- Identify the tributary drainage area.
- Identify existing drainage outfalls.
- Evaluate outfall sensitivity and suitability for continued use.
- BFE determination (1 location anticipated).
- Preparation of the EDP.
- Coordination meetings for the EDP with LCDOT, LCSMC, LCFPD, the Village of Barrington, Village of Deer Park and Ela Township.

Proposed Drainage Plan: Development of the PDP includes an evaluation of proposed drainage conditions for the identified preferred alternative. A closed drainage system is anticipated to be provided within the limits of the intersection improvement and would transition to existing open drainage at the project limits. A draft PDP will be prepared in advance of the Public Hearing for LCDOT review, and to confirm the proposed right-of-way/easement requirements. Subsequent to the Public Hearing, the final PDP will be prepared to reflect pertinent Public Hearing comments and any review comments from LCDOT.

Specific work tasks associated with development of the PDP for the intersection include the following:

- Delineate off-site and on-site drainage areas and perform hydrologic analyses.
- Develop the off-site and on-site drainage concept plans.
- Prepare a PDP to fully describe the proposed drainage concept and reflect drainage calculations for drainage system size, type and location. Prepare the draft PDP in advance of the Public Hearing, and the final PDP after the Public Hearing.
- Evaluate the needs for additional rights-of-way and drainage easements for drainage purposes.
- Evaluate the stormwater detention requirements and any compensatory storage requirements based on proposed conditions and in accordance with the Lake County Watershed Development Ordinance. Runoff volume reduction (RVR) techniques will be reviewed and incorporated in the proposed drainage plan as determined appropriate.
- Evaluate the need for stormwater quality BMP enhancements in accordance with LCSMC and/or Army Corps of Engineers guidelines.
- Coordination meetings for the PDP with LCDOT, LCSMC, LCFPD, IDOT, the Village of Barrington, Village of Deer Park and Ela Township.

Proposed Drainage System

- Outlet Evaluation – Evaluate existing outlets to determine their suitability for continued use and sensitivity to an increase in rate and volume of stormwater runoff.
- Right-of-Way Analysis - Evaluate the needs for additional rights-of-way and drainage easements for drainage purposes.

- Stormwater Detention Evaluation - Evaluate the stormwater detention requirements for this project based on IDOT criteria, but with consideration for the Lake County Watershed Management Ordinance.
- Local & Other Agency Coordination - Coordinate drainage related issues with IDOT, LCDOT, LCFPD, LCSMC, the Village of Barrington, Village of Deer Park, Ela Township, and other agencies as appropriate.
- Proposed Drainage Plan – Prepare a Proposed Drainage Plan to fully describe the proposed drainage concept and reflect drainage calculations for drainage system size, type and location.
- Floodplain Evaluation - Evaluate compensatory storage requirements for any proposed fill in floodplain according to the Lake County Watershed Management Ordinance.
- Prepare LDS Text and Exhibits – Complete all drainage tasks, sort out all data and exhibits and prepare a completed Location Drainage Study in compliance with requirements listed in ACEC-Illinois / IDOT 2006 Drainage Seminar handouts.

Task 6 - Alternate Geometric Studies

The Alternate Geometric Studies task includes developing preliminary geometry for initial alternatives for coordination with project stakeholders and for presentation at a Public Meeting, with subsequent development of detailed geometry for the preferred alternative to be presented at the Public Hearing and included in the Project Development Report.

Initial Intersection Feasibility Analysis

An initial feasibility analysis will be performed for coordination with LCDOT before proceeding with the full Phase I Study and stakeholder coordination. The feasibility analysis will evaluate a series of alternatives that would be narrowed to a reasonable range of alternatives to be advanced further as part of the Phase I Study. The range of alternatives evaluated as part of the initial feasibility analysis is anticipated to include alternative intersection designs including roundabouts and traditional signalized intersection alternatives. For the purposes of this proposal, it is assumed that four (4) initial concept alternatives will be evaluated for the intersection. These include:

1. Three-Lane Traditional Signalized Intersection Alternative
2. Five-Lane Traditional Signalized Intersection Alternative
3. Single-Lane Roundabout Alternative
4. Multi-Lane Roundabout Alternative

Capacity analysis using Synchro will be prepared for each traditional intersection alternative considered at Ela Road at Long Grove Road, for the a.m. and p.m. peak periods. Roundabout alternatives at Ela Road at Long Grove Road will be analyzed in Sidra for the a.m. and p.m. peak periods for each alternative considered.

Projected 2040 traffic performance of each alternative considered with recommended preferred options for each intersection type will be submitted for LCDOT review. Two meetings are

anticipated with LCDOT staff associated with development and review of the intersection feasibility analysis.

Preliminary Alternatives Development

Preliminary geometry will be developed for the two (2) finalist build alternatives that advance from the feasibility analysis and coordination with project stakeholders, and for presentation at a Public Meeting. Preliminary geometry will include plan geometry, preliminary profile, and critical cross sections as necessary to estimate the proposed right-of-way requirements for each alternative. It is estimated that cross sections will be cut approximately every 200' along the improvement to establish preliminary ROW requirements. In addition, the preliminary geometry will be developed and evaluated based on the available environmental resource data (collected and/or as provided by IDOT through the environmental survey process), the traffic and crash analysis performed, and initial stakeholder input.

Using the existing Synchro corridor model developed in Task 3, STV will perform a 2040 build corridor-wide Synchro model to evaluate traffic progression along Ela Road for the two build alternatives. We are aware that Synchro has some limitations regarding the ability to accurately model roundabout performance, however; this option allows both alternatives to be modeled within the same software package. The outputs from the initial Sidra modeling noted above will be used to validate the Synchro roundabout model alternative.

Sidra roundabout analysis software will be updated based on any refinements with the preliminary alternatives development as compared to the concept alternatives. Preliminary alternative cost estimates will be prepared based on major construction items and applicable contingency costs. This is anticipated to be an iterative process including concept design variations as necessary to address design concerns identified through stakeholder coordination including IDOT, LCDOT, LCSMC, and LCFPD. For purposes of developing the project scope of work, it is assumed that the finalist alternatives will include two alternatives – one traditional intersection alternative and one roundabout alternative.

In addition, the need to accommodate future traffic demands on Ela Road will be considered in conjunction with the intersection improvement. For purposes of this proposal, it is assumed that preliminary geometry will be developed to accommodate a future three-lane cross section on Ela Road.

STV will include **MTJ Engineering, Inc.** as a subconsultant to perform preliminary design and traffic analysis for the proposed roundabout alternatives considered at the intersection. MTJ will also provide assistance with developing roundabout simulations for presentation at the Public Meeting and/or Public Hearing as determined to be required and if the roundabout alternatives advance.

The following assumptions are also made with respect to development of preliminary geometry:

- Pedestrian and bicycle accommodations will be incorporated with all alternatives

compliant with the Lake County NMTI policy.

- A closed drainage system (i.e.; curb and gutter) will be provided within the limits of the intersection improvement to minimize overall right-of-way impacts along the corridor, which would transition to open drainage at the improvement limits.
- Stormwater detention and compensatory storage volume requirements and locations (if required) will be estimated for the preliminary alternatives for comparative purposes, and will be finalized as part of the preferred alternative.
- For each preliminary alternative, plan geometry, preliminary profiles, and cross sections at approximately 200' spacing will be developed to determine preliminary right-of-way requirements for assessment of environmental impacts and development of concept level cost estimates.

As discussed in the public involvement task below, it is anticipated that multiple meetings will be held with project stakeholders to discuss the development and evaluation of the preliminary alternatives. This is anticipated to include meetings with LCDOT, LCSMC, LCPD, IDOT Bureau of Local Roads, the Village of Barrington, Village of Deer Park and Elia Township, as appropriate.

Preferred Alternative Development

Based on the results of the alternatives development and comparative analysis, and based on the results of stakeholder coordination and the Public Meeting for alternatives, the preferred alternative will be identified for the intersection. Detailed plan, profile and cross section studies will be developed for the preferred alternative as required to complete the Phase I Study. The preferred alternative will be the basis for development of the PDP, the Traffic Maintenance Analysis, and for determination of right-of-way and/or easement requirements for the project. The preferred alternative will also be the basis for the discussion of impacts and mitigation in the Project Development Report.

For the preferred alternative, STV will prepare proposed plan and profile sheets showing existing and proposed horizontal and vertical geometry at a scale of 1"=20'. The proposed geometry will be set to meet all applicable IDOT and LCDOT design criteria or approved design exceptions. For the purposes of this proposal, the preferred alternative is assumed to be either a roundabout or a 3-lane conventional intersection.

Existing and proposed cross-sections will be provided at 50' intervals and at all side streets, driveways, roadway cross culverts, and other grade controlling features to determine right-of-way and easement requirements, wetland impacts (if/where present), ditch locations and drainage patterns, and to fine-tune the proposed vertical geometry. These cross-sections will show existing right-of-way, existing and proposed top surface grade elevation, and the proposed right-of-way and easements where necessary. A final Phase I Engineering estimate of probable costs will be prepared for the preferred alternative.

This task will include attendance at IDOT/FHWA coordination meetings at the IDOT District One office in Schaumburg to present the project scope and limits, alternatives, results of the Public

Meeting, and to request concurrence on environmental processing as a Categorical Exclusion Group II. For the purpose of this proposal, it is assumed that attendance at four (4) IDOT/FHWA coordination meetings will be required to complete the Phase I Study.

Specific work tasks will include:

- Initial Intersection Feasibility Analysis.
- Develop preliminary alternatives for the intersection.
- Comparative analysis of the preliminary alternatives.
- Develop detailed geometry for the preferred alternative.
- Determine right-of-way/easement requirements for the preferred alternative based on geometry, drainage, environmental, and pedestrian/bicycle considerations. This will include preparing a separate set of proposed right-of-way plans.
- Coordination meetings with LCDOT, LCSMC, LCFPD, IDOT, the Village of Barrington, Village of Deer Park, and Ela Township as appropriate.
- Attendance at IDOT/FHWA coordination meetings.
- Prepare construction cost estimate for the preferred alternative.

Task 7 - Traffic Maintenance Analysis

STV will prepare a Traffic Maintenance Analysis (TMA) for construction of the preferred alternative. This will include a determination of the most effective method for construction staging and traffic maintenance, including an evaluation of the need for and implications of maintaining traffic during construction, providing for construction detours, and any associated temporary pavement needs and associated temporary construction easements. This task will be summarized in a TMA report for this project that is anticipated to be included in the Project Development Report as an appendix.

Specific work tasks will include:

- Determine stage construction methodology.
- Determine traffic maintenance requirements.
- Identify detours if determined to be required.
- Determine temporary construction easement needs.
- Prepare TMA report with exhibits.

Task 8 - Intersection Design Studies

STV will prepare an Intersection Design Study (IDS) at a scale of 1" = 20' for the preferred alternative, which will include preparing capacity analysis for the preferred alternative using Highway Capacity Software 2010 or Sidra as applicable, the proposed intersection geometry, the proposed traffic signal layout (if signals are proposed), and the associated design criteria/design exceptions/general notes. The preliminary IDS is anticipated to be submitted to LCDOT and IDOT-BLRS for review, and revised based on any review comments received.

As noted, STV will include **MTJ Roundabout Engineering, LLC** as a subconsultant to provide preliminary development of roundabout geometrics and traffic analysis of these alternatives. STV will lead the detailed design efforts and preparation of IDS's for preferred alternatives that include roundabouts if one is selected as the preferred alternative.

Task 9 - Environmental Surveys, Analysis and Coordination

The environmental work for this project will be prepared by **Huff and Huff, Inc. (H&H)**, as a subconsultant.

This task includes the following:

The project is located entirely within an area of local roads including approximately one mile of improvements along North Ela Road and West Long Grove Road in Barrington and Deer Park, Illinois. For purposes of this scope, the area has been expanded to include the residential properties at the intersection of the roadways for the potential installation of a roundabout intersection design. It is also understood that storm water retention/infiltration areas may be necessary in the northern portion of the project area within the current forest preserve area. It is assumed that appropriate access will be granted to the areas outside of the current ROW prior to beginning the environmental services.

The following scope of environmental services will be completed for the Ela Road intersection project by H&H. These include: special waste services including Preliminary Environmental Site Assessment (PESA), wetland services, tree survey, Section 4(f) coordination, CSS and public involvement, water quality issues, and threatened & endangered (T&E) Species consultation. A photo log will be developed of the structures in the project limits to document potential historic, archeological, or architectural services, which will be submitted to the Illinois Historic Preservation Agency.

Air Quality Analysis

Contingent upon the preferred alternative identified and upon whether the preferred alternative will include traffic signals, an air quality screening may be required by IDOT. If required, STV will provide input data sheets to IDOT for conducting the air quality analysis using the Illinois Carbon Monoxide Screen for Intersection Modeling (COSIM) screening tool for the proposed intersection. For purposes of this proposal, it is assumed that COSIM input data sheets will be required for air quality screening.

If not already complete, STV will coordinate with the Lake County CMAP liaison to ensure the project is included in the regional air quality conformity analysis and that a Transportation Improvement Program (TIP) number is assigned.

Preliminary Environmental Site Assessment (PESA): H&H will prepare separate Preliminary Environmental Site Assessment for the Project Corridor. The process will follow general protocols

associated with ASTM E1527-13, which is a standard environmental site assessment methodology and IDOT procedures. These protocols are consistent with the "Preliminary Site Assessment (PESA)" procedures outlined by the Illinois Department of Transportation (IDOT) in BDE #66-10A and the "Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects." No soil sampling is included in this task. Soil management and CCDD issues will be investigated during Phase 2 and is not included in this scope of services.

A. Historical Research

The project corridors historical land use/ownership records will be developed from standard historical sources. Historical aerial photographs or historical maps, such as Sanborn Fire Insurance Maps, will be reviewed, as available. The review will identify land use over time and potential areas of environmental concern, such as areas of surface disturbance and outside storage.

B. Site Evaluation

Current environmental features and conditions of sites adjacent to the right-of-way/project areas will be evaluated. A site walkover of potential right-of-way/project areas designated for excavation and/or acquisition will be conducted for first-hand evaluation of current environmental conditions within the project limits. All of the features and conditions listed above will be investigated and, as appropriate, documented in photographs. The land-use and housekeeping practices of adjacent properties also will be evaluated in accordance with ASTM protocols.

C. Records Review

A records review will be conducted to determine potential environmental concerns within the study areas. The reviews will include a search of standard state and federal environmental record databases in accordance with the specifications of ASTM standards. The searches are based on the outline of the study areas.

Specifically, H&H will search each database to identify any potential sources requiring further investigation. As appropriate, Freedom of Information Act (FOIA) requests will be filed with the Illinois Environmental Protection Agency (IEPA) to obtain additional data pertaining to identified sites.

D. Report Preparation

A PESA report summarizing the results of the evaluation will be prepared for each of the project corridors. The following information will be included in these reports:

- a) The project location and description
- b) Historical uses of corridor.
- c) The area geology and hydrology.
- d) The environmental status of sites adjacent to the corridor regarding chemical use and storage, underground and aboveground storage tanks, solid waste, special

waste, and hazardous waste, wastewater, and PCBs.

- e) An analysis of the site inspection.
- f) A summary of the findings regarding any environmental concerns. This will include IDOT's per Memo 66-10 and identification of Potentially Impacted Properties (PIPs) per Subpart F, Section 1100, 35 IAC, related to Clean Construction Demolition Debris management.

Wetland/WOUS Delineation: H&H will conduct a wetland and WOUS delineation using current methods and guidance and methodologies from the U.S. Army Corps of Engineers (COE). The assessment will include a document review (soils, topographic, wetlands, hydric soils, floodplain, and aerial photography mapping), an on-site field investigation, and a report summarizing findings, including mapping.

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 maps reviewed and to be used include:

- U.S. Geological Survey Topographic Maps
- National Wetlands Inventory (NWI) Maps
- Lake County Soil Survey
- Lake County Wetland Inventory Maps
- Lake County ADID Wetland Maps
- Flood Insurance Rate Maps
- Aerial Photography

B. On-Site Investigation (Field Inventory)

The on-site investigation will be conducted by H&H staff experienced in Federal methods for conducting wetland delineations. H&H will classify and define hydric soils, hydrophytic vegetation, and evidence of hydrology to determine if wetlands are present. The wetland perimeters will be surveyed in the field by H&H.

A wetland and WOUS delineation of the project site will be conducted to meet the requirements of Executive Order 11990, "Protection of Wetlands;" Section 404 of the Federal Water Pollution Control Act as amended by the Clean Water Act (COE, Section 404 Permit) and Illinois Environmental Protection Agency (IEPA, Section 401 Guidelines) regulations. These regulations pertain to the placement of fill or alterations of drainage within wetlands of any type and apply to privately as well as publicly-owned wetlands. The investigation will meet the requirements of these regulations by identifying the type, functions, and approximate boundaries of all wetlands and WOUS.

Wetlands found will be classified according to type using the "Classification of Wetlands and Deep Water Habitats of the United States" by Cowardin. Wetland and WOUS boundaries will be defined using the 2010 "COE Midwest Region Manual" (COE, 2010). Each potential wetland and WOUS area will be evaluated for the presence of wetland indicators comprised of hydrophytic vegetation, hydric soils, and wetland hydrology. Functions of wetlands will be evaluated from field observations as well. All areas exhibiting wetland and WOUS characteristics within the project limits will be investigated.

The entire area within the proposed project limits will be investigated in the event that unmapped wetlands are present. As the wetland maps are developed to be used as a general planning tool, detailed field investigations are required to ascertain whether or not wetlands are present. All areas exhibiting wetland characteristics within the project limits will be investigated.

H&H will flag the wetland perimeters and pick up the survey using GPS. H&H will download the data and provide a file to STV with wetland and data point locations.

This task includes time for a boundary verification and preliminary jurisdictional determination with the Lake County Stormwater Management Commission; however, fees for the boundary verification and jurisdictional determination are not included in this cost estimate as the fees are based on the amount of wetlands present which is not known at this time.

Wetland Report: A wetland and WOUS delineation report will be prepared summarizing the findings of the fieldwork. Based on reviewed information, wetlands and WOUS are present and this report will be needed.

Specific items to be included are as follows:

- a) Map showing the wetland/WOUS boundaries and project boundaries
- b) COE data sheets with color photos
- c) Written description of wetland functional classification
- d) Floristic Quality Index Rating assessment
- e) Permitting Summary
- f) Jurisdictional Summary Table
- g) Identification of 303d impaired waterways

Upon completion of the wetland report, H&H will complete the Wetland Impact Evaluation (WIE) Forms and submit online through the IDOT website. It is anticipated only two WIE forms will be required.

Wetland permitting will be conducted in Phase 2 and is not included in this scope of work. The preliminary jurisdictional determination and boundary verification will be conducted during this

phase of the project to provide a completed delineation document for Phase 2 permitting.

Tree Survey: H&H will complete a tree survey for the project corridor with particular focus on the trees along the Cuba Marsh Forest Preserve sites. Trees along the project that are not along or within the forest preserve site will be surveyed at six inches diameter breast height (dbh) and greater. The Forest Preserve District requires that all trees on forest preserve land will be surveyed. Tree tagging and surveying will be performed by others. H&H will identify the trees to species level and determine health, structure, and origin. H&H will also note whether any trees are of exceptional size and condition and determine which trees are worth avoidance, if any. During the survey, H&H will identify any trees that may be providing suitable habitat for the northern long-eared bat which was recently listed as federally threatened by the US Fish & Wildlife Service.

Trees surveyed and proposed for removal that are on forest preserve property will need to be coordinated with the Forest Preserve District and will be part of the Section 4(f) coordination that will be initiated for the project.

Tree Tabulation/Report: H&H will complete tabulation tables with the information gathered from the field survey. Station and offset information will be provided by STV. All the information will be tabulated and summarized on the tables. Upon completion of the tree tabulation, a summary memorandum will be prepared. Trees providing habitat for the federally threatened northern long-eared bat will be tabulated and potential mitigation options will be identified.

Section 4(f): The Cuba Marsh Forest Preserve is located on both sides of Ela Road north of Long Grove Road, with the majority of the site located on the west side of Ela Road. On the west side, Cuba Marsh Forest Preserve extends south to the intersection of Ela Road and Long Grove Road. Regardless of the design of the proposed new intersection (roundabout vs conventional) it is anticipated that forest preserve land may be acquired for the project. As the project is being planned to be eligible for future federally funding, Section 4(f) coordination will be required to maintain the eligibility.

H&H will work with STV during the development of the Phase 1 intersection design to determine the level of impacts to the forest preserve sites. Data collection on the forest preserve will be initiated that will include information of funding used for the site, current and anticipated uses, recreational facilities and programs and other issues that may arise during coordination with the Forest Preserve District. This will also include conversion of open natural areas to rights-of-way and the potential removal of trees and wildlife habitat.

As part of the coordination, a Section 4(f) report will be prepared that summarizes the coordination efforts. Early in the Section 4(f) process, H&H will request guidance from the Federal Highway Administration and IDOT to determine the level of processing. It is anticipated that the project could be processed as a Programmatic Action, but the team will pursue the potential for a de minimis action which will require less coordination and reporting.

Context Sensitive Solutions (CSS): LCDOT indicated that CSS principles should be implemented for the project. Stakeholder involvement will most likely be necessary for the project given the sensitivity of the forest preserve sites and local interest in the project. The intent of the CSS process will be to involve stakeholders in the development of project alternatives. H&H will participate in the Stakeholder Involvement Group (SIG) meetings when environmental issues will be presented and/or discussed. Four SIG meetings are expected for the project. Prior to each SIG meeting attendance at dry runs is anticipated in preparation for the meetings.

Public Meetings/Hearing: H&H will be present during the anticipated two public meetings and one public hearing to answer questions and address environmental issues for the project. H&H will also participate in three dry runs meetings prior to the formal public meetings and hearing.

Water Quality: Because of the presence of the Cuba Marsh Forest Preserve, the quality of roadway runoff will most likely be an important issue to the residents and the Forest Preserve District. H&H will investigate best management practice (BMP) measures that could be implemented for this project to treat stormwater before being released to adjacent properties and water features. The BMPs that could be incorporated into the stormwater management plan include bioswales, natural vegetated swales, infiltration trenches and basins, and water quality basins. Additionally, salt spray may be identified as a potential issue and BMPs may incorporate features to minimize salt spray.

Threatened and Endangered (T&E) Species Consultation and IHPA Coordination: H&H will complete a threatened and endangered species consultation for federally listed species. Consultation will include a field analysis of habitat and a Section 7 letter, following the online USFWS guidelines.

For state-listed species, H&H will submit an EcoCAT through the Illinois Department of Natural Resources. This proposal does not include specific species surveys.

A photo log will be developed of historical structures and submitted to IHPA to provide information regarding historical/cultural sites in the project area.

For the purposes of this proposal, the preparation of a Phase I Archeological Survey is not anticipated.

Specific work tasks will include:

- Preliminary Environmental Site Assessment (PESA)
- Wetland services
- Tree survey
- Section 4(f) coordination
- Context Sensitive Solutions Involvement

- Water quality issues consultation and permitting assistance
- Threatened & endangered (T&E) Species consultation.
- IHPA coordination and photo log.

Task 10 - Project Development Report

This task includes development of the Project Development Report (PDR) in accordance with IDOT-BLR Form 22210 for Categorical Exclusion Group II, and coordinated with LCDOT and IDOT for review/approval. This task includes development of the PDR and all supporting exhibits. It is assumed that a single PDR will be prepared to address the proposed intersection improvements.

Preliminary PDR

STV will prepare a complete preliminary PDR for LCDOT and IDOT review prior to the Public Hearing.

Specific work tasks include:

- Compile Maps, Charts, Graphs and Exhibits for the PDR.
- Prepare complete Preliminary PDR and submit to LCDOT and IDOT for review prior to the Public Hearing.
- Revise and resubmit Preliminary PDR based on review comments received.

Final PDR

STV will incorporate Public Hearing input/disposition of comments; and address any additional comments received from LCDOT and IDOT, revise the preliminary PDR accordingly and submit to LCDOT and IDOT for Phase I Design Approval.

Specific work tasks will include:

- After the Public Hearing, revise the PDR including maps, charts, graphs and exhibits based on outstanding review comments and comments received at the Public Hearing.
- Submit the final PDR to LCDOT and IDOT for Phase I Design Approval.

Task 11 - Public Involvement

STV will lead the overall public involvement work for this project with support from Huff and Huff, Inc. and MTJ Roundabout Engineering, LLC. In general, the public involvement program for this project is anticipated to include individual project stakeholder coordination, facilitation of the SIG, a series of Public Meetings, and development and maintenance of a project website. The following is the general scope of work anticipated as part of the overall public involvement program for this project.

Initial Coordination

Initial project coordination meetings will be scheduled with the Village of Barrington, Village of Deer Park, LCFPD, LCSMC and Ela Township shortly after authorization to proceed, to introduce the project team, review the general project scope of work and overall project development

process (including public involvement activities), discuss field survey work anticipated to occur, establish mutual contacts, and to provide an opportunity for early project input. This initial coordination will occur as a lead project task, in advance of the Public Information Meeting described below.

Public Involvement Plan Development, Project Logo:

The overall public involvement process will be guided by an abbreviated Public Involvement Plan (PIP) that will be developed for the project. The PIP will summarize the anticipated overall public involvement program including the anticipated SIG process, the key project decision making milestones and schedule, and a list of project stakeholders.

The PIP will be used to establish the ground rules for SIG participation and will be shared with all SIG participants. Extensive updates to the PIP throughout the duration of the project are not anticipated. The PIP will be presented at the initial SIG meeting for acceptance.

An additional early project public involvement task will be development of the project brand or logo, which will be used on all subsequent project materials and the project website.

Specific work tasks include the following:

- Develop abbreviated PIP and submit to LCDOT for concurrence.
- Identification of project stakeholders.
- Project logo.

Public Informational Meeting

An initial Public Informational Meeting (PIM) will be advertised and held to explain the overall project development process requirements, present the public involvement program, provide an opportunity for early public comment, and solicit additional participants in the SIG. The initial PIM is anticipated to be an Open House meeting with various stations established to describe the project, the federal project development process, the Public Involvement Plan (PIP), the roles and responsibilities of the SIG, and solicit applications for SIG membership.

Specific work tasks for the Public Informational Meeting include the following:

- Compile mailing list (including stakeholders and all adjacent property owners).
- Preparation of the PIM Brochure/Handouts.
- Preparation of the PIM display exhibits (aerial exhibits, traffic data, crash data, and environmental data as available).
- Attendance at the PIM dry run with LCDOT as required.
- Secure the PIM location.
- Preparation of the PIM newspaper display ads, invite letters, press release, and e-blast as determined appropriate for the PIM.
- Staff attendance at the PIM.

- Preparation of record summaries of the PIM which will include copies of all notices, presentation material, attendance lists, comments, and responses provided.
- Preparation of the PIM summary for posting on the project website.
- Prepare responses to comments received at the PIM as determined required.

SIG Meetings:

The SIG will provide a structured process by which the project team and project stakeholders will have the opportunity for direct information exchange as part of key decision making milestones within the overall project development process.

Four (4) separate SIG meetings and/or workshops are anticipated for the project. However, this will remain flexible based on actual project needs. SIG meetings are intended to be held in a workshop format as follows:

- SIG Meeting 1: Introduction of project team and SIG members. Review overall project development process and schedule, and discuss the PIP and SIG ground rules. Present traffic data and analysis (including 2040 projections and 2040 No-Action conditions), as well as crash data and analysis. A workshop will be facilitated for development of the SIG Project Problem Statement.
- SIG Meeting 2: Present the project Purpose and Need statement incorporating project analysis and stakeholder input received at the PIM and SIG #1. A workshop will be facilitated to identify project design concerns and opportunities, and the range of alternatives to be considered for the intersection.
- SIG Meeting 3: Present the analysis of the range of alternatives with respect to travel performance, socioeconomic and environmental impacts, and cost. A workshop will be facilitated to further screen the alternatives to identify the finalist alternatives to be presented at a Public Meeting.
- SIG Meeting 4: Discuss the results of the Public Meeting and the identified preferred alternative, along with the results of further analysis of the preferred alternative as appropriate. A workshop will be facilitated for SIG input on any remaining design concerns and opportunities associated with the preferred alternative, such as aesthetics, maintenance of traffic (MOT), etc., that will be addressed in the project engineering and environmental reports, and for inclusion in the Public Hearing presentation.

Specific work tasks associated with the SIG meetings includes the following:

- Identify location for each SIG meeting with assistance from LCDOT.
- Prepare meeting agenda and submit to LCDOT for concurrence.
- Prepare SIG meeting invite letters and emails, and distribute pre-meeting materials.
- Prepare meeting presentation and materials.
- Prepare for an attend SIG dry run meetings at LCDOT.
- Staff attendance at SIG meetings.
- Prepare SIG meeting minutes/summary and distribute.

Public Meeting and Hearing:

One Public Meeting and One Public Hearing is assumed for the project. The Public Meeting will present the range of alternatives considered and the finalist alternatives along with the comparative analysis results, for public review and comment.

The Public Hearing will present the preferred alternative along with the factors considered in this determination, for public review and comments. Any further analysis of the preferred alternatives will also be presented.

Specific work tasks for both the Public Meeting and Public Hearing include the following:

- Compile mailing list (including stakeholders and all adjacent property owners).
- Preparation of Public Meeting & Public Hearing Brochures/Handouts.
- Preparation of Public Meeting & Public Hearing Display Exhibits (Aerial Displays with Alternatives, Cross Sections, Traffic Data, Crash Data, Environmental Data, and other displays as appropriate).
- Preparation of Public Meeting & Public Hearing Powerpoint Presentations (Including Script and Storyboard).
- Attendance at Public Meeting & Public Hearing “Dry Runs” with LCDOT.
- Secure location for Public Meeting & Public Hearing Site.
- Preparation of Public Meeting & Public Hearing Newspaper Display Ads and Press Releases.
- Staff attendance at Public Meeting and Public Hearing.
- Preparation of record summaries of the Public Meeting and Public Hearing which will include copies of all notices, presentation material, attendance lists, comments, and responses.
- Preparation of post Public Meeting & Public Hearing project updates for posting on the project website that will summarize the proceedings, general comments received and responses, and an overview of the next steps in project development.
- Prepare individual response letters to uncommon comments received, or requests for information received at the Public Meeting and Public Hearing.

Project Website:

An independent project website will be developed to provide a central location for the exchange of project information between the project team (LCDOT and consultants) and project stakeholders. The website can also be used as a secure location for posting of project information for review by LCDOT only.

The website will be located on a project specific internet domain acquired by the consultant and linked to the LCDOT project website. The website will incorporate graphics and messaging developed specifically for the Ela Road and Long Grove Road project.

Website content will be developed and maintained throughout the Phase I project development process (anticipated to be approximately two years for purposes of this proposal) by the consultant. All website content will be reviewed and approved by LCDOT before posting. The website will include at least the following information/capabilities for the project team and stakeholders:

- List of project stakeholders including contact information.
- Background project information including schedule.
- Provide a list of Frequently Asked Questions and response.
- Notifications for all Public Meetings and SIG meetings.
- Project team contact information.
- Resource for submitting questions and comments.
- Posting of project documents for information and/or review.

At the conclusion of the Phase I project development process, the website and domain ownership will be assumed by LCDOT unless otherwise specified.

Task 12 - Geotechnical and Pavement Analysis

This task includes obtaining pavement and soil borings along Ela Road and Long Grove Road to complete a pavement analysis and for design purposes as part of subsequent Phase II engineering. STV will utilize **Interra, Inc. (Interra)** for this work.

The scope of work includes locating and drilling thirty-six (36) roadway soil borings. The roadway borings will be drilled to a depth of 7.5 to 10.0 feet each from the existing ground/pavement surface, based on the existing ground elevation and proposed design grades. The roadway borings will be spaced approximately 150 feet apart and staggered, in general accordance with the IDOT Geotechnical Manual guidelines. The borings will be primarily drilled in the shoulder areas of Ela Road and Long Grove Road. In addition to the soil borings, a total of 4 pavement cores will be obtained to provide a photo log.

The location of the borings will be finalized upon consultation with LCDOT. The location of the borings will be adjusted based on field conditions, accessibility and utility conflicts. We do not anticipate closing of lanes during drilling. The borings will be drilled in the existing shoulder areas or within the embankment adjacent to the roadways. Traffic control signage and flaggers will be utilized as needed during drilling to ensure safety of drilling crew and traffic.

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. Where required, the surface will be patched with asphalt to match surrounding elevations.

All field sampling and laboratory testing will be performed in general accordance with IDOT specifications. Laboratory testing includes moisture content tests, unconfined compressive strength tests using a pocket penetrometer on all recovered soil samples. Standard Proctor tests, Illinois Bearing Ratio tests will be performed on bulk samples recovered from the proposed roadway areas. The final geotechnical report will be in general accordance with the IDOT Geotechnical Manual guidelines.

Environmental Screening: Soil Samples will be screened in the field using a Photoionization Detector (PID) unit to identify potential contamination. The information will be included in the report.

Specific work tasks will include:

- Visual pavement inspection.
- Obtain pavement cores and soil borings as required.
- Pre-field work coordination with LCDOT on the boring plan, including traffic maintenance prior to field work.
- Post-field work meeting at LCDOT to discuss results and report preparation.
- Screen soil samples for potential contamination.
- Prepare geotechnical report in general accordance with the IDOT Geotechnical Manual guidelines.

Task 13 - Project Design Coordination Meetings

This task includes the organization and attendance at Bi-Weekly Project Status / Coordination Meetings throughout the duration of the project. Team members and LCDOT staff will be requested to attend these meetings to ensure the design work is moving ahead efficiently and on schedule. The preparation of meeting minutes for these coordination meetings is not anticipated. However, an action item list and log will be kept to ensure all team members are responsive and accountable for their involvement in the project.

Task 14 - Project Administration and Quality Assurance/Quality Control

This task includes overall project administration and management, as well as Quality Assurance/Quality Control (QA/QC) reviews associated with major project deliverables.

Project administration includes managing the day to day work effort on the project to ensure an efficient project development process including work force allocations, budget oversight, monthly progress reviews to ensure project milestones are being met to the extent possible.

QA/QC reviews will occur as part of major project deliverables in accordance with STV's established QA/QC procedures.

Specific work tasks will include:

- General project management/administration including staff resource allocation, task/schedule oversight, quality reviews, etc.
- Prepare monthly progress reports including a copy of the overall project schedule.
- Attend project status/coordination meetings with LCDOT as determined to be necessary. For purposes of this proposal, six separate project status/coordination meetings with LCDOT are anticipated to occur, and would be attended by up to five members of the consultant team.

WORKHOUR ESTIMATE

CATEGORICAL EXCLUSION (C.E.)

ROUTE(S): CH 57 (Ela Road) @ CH 49 (Long Grove Road)

LOCATION: Barrington, IL and Deer Park, IL

SECTION: 14-00144-20-CH

COUNTY(S): Lake

LENGTH OF PROJECT: app. 1.0 miles

JOB NUMBER:

TIP ID:

PROJECT NUMBER:

DOCUMENTS OR SPECIAL COORDINATION AS APPLICABLE:

- | | |
|--|---------|
| ☒ Categorical Exclusion | Type II |
| ☒ Section 4(f) Evaluation | |
| ☐ Section 106 Statement of Effect | |
| ☒ Wetland Technical Report | |

1 Data Collection, Compilation, Review and Evaluation

	Hrs
a. Data Collection (Land Use, Zoning, Park/Forest Districts, School Districts, Fire Districts, Sanitary Districts, Municipality, Developers, Bike/Ped, USGS, FEMA, and Public Service routes)	18
b. Obtain and Review Data from the County (Traffic Data, Crash Data, Old Plans, Soils Geological Information, Survey Data, Existing Centerline/R.O.W., Utility Plans, LiDAR, Aerial Photos and GIS data)	16
c. Analyze and Catalog Data	20
d. Determine Facility Deficiencies	12
e. Field Trips to Area	3 trips @ 6 18
f. Basemap Setup	8
g. ESR Exhibit Preparation and Request	6
h. Prepare Photo Log	8
TOTAL WORKHOURS	106

2 Topographic Survey

a. Coordination with Subconsultant	16
b. See Attached	EDI work
TOTAL WORKHOURS	16

3 Traffic Counts, Projections and Analysis

a. Data analysis / video review / count coordination / 2 intersections	12
b. Traffic Projections and coordination with CMAP	2
c. Analyze 2040 Traffic Projections and prepare turning movement distributions	8
d. Ex. and No-Build Capacity Analysis (AM & PM) - Update Synchro network - 3 intersections	24
e. Prepare Signal Warrant Analysis	6
f. Prepare Technical Memorandum - 3 intersections	32
TOTAL WORKHOURS	84

4 Crash Analysis

a. Obtain and Review Crash Data from the County and IDOT	2
b. Prepare collision diagrams / exhibits using Aerial Mosaics as Base Sheets	8
c. Develop Crash Analysis Report (CAR) Format, Maps, Tables, and Exhibits	12
d. Prepare Preliminary CAR for review	18
e. Prepare Final CAR with disposition of comments	12
f. Crash Prediction using IHSDM and technical memorandum	32
TOTAL WORKHOURS	84

5 Location Drainage Study

Existing Drainage Plan (EDP)

a. Existing Hydrology	52
b. Base Flood Elevation (BFE) Evaluations (1 location)	4
c. General Location Drainage Map	8
d. Flood Insurance Rate Map (FIRM) Exhibit	2
e. USDA Soils Maps Exhibits	2
f. Existing Drainage Plans	36
g. Incorporate Review Comments (incl. one meeting)	24
Subtotal =	128

Proposed Drainage Plan (PDP)

h. Sensitive and Unsuitable Outlets Determination	6
i. Proposed Hydrology	28

Ela Road (CH 57) and Long Grove Road (CH 49) Intersection
Section 14-00144-20-CH

j. Proposed Hydraulics	70
k. Proposed Drainage Plans	72
l. Meeting with LCDOT to discuss review and Public Meeting comments	8
m. Right-of-Way Analysis	8
n. Stormwater Detention Evaluation	32
o. Compensatory Storage Evaluation	12
p. Runoff Volume Reduction (RVR) and Stormwater Quality BMPs	40

Subtotal = 276

Location Drainage Study (LDS) Narrative

q. Identified Drainage Problems	2
r. Identified Base Floodplains	2
s. Major Drainage Features	1
t. Design Criteria	1
u. Outlet Evaluation	4
v. Stormwater Detention	2
w. Right-of-Way Analysis	2
x. Drainage Alternatives	6
y. Local and Other Agency Coordination	4
z. Proposed Drainage Plan	2
aa. Water Quality / BMP	4
bb. Floodplain Encroachment Evaluation	2
cc. Evaluate Permit Requirements	36
dd. Incorporate Review Comments	18
ee. Prepare Preliminary LDS Submittal Documents	2
ff. Prepare Final LDS Submittal Documents	2

Subtotal = 90

TOTAL WORKHOURS 494

6 Alternate Geometric Studies

Initial Intersection Feasibility Analysis (Analyze 4 Concept Alternatives - 2 STV, 2 MTJ)

a. Capacity Analysis (AM & PM) for each concept (Ela & Long Grove Intersection)	2 concepts @	8	16
b. Meetings with LCDOT staff to discuss feasibility study - Assume 2 people at each meeting	2 meetings @	8	16
c. LCDOT Coordination Meeting Minutes	2 meetings @	2	4
	<u>Subtotal =</u>	<u>36</u>	

Preliminary Alternatives Development (Develop and Analyze 2 Preliminary Alternatives)

d. Develop prelim. plan geometry, profiles, typical sections, and cross sections at approx. 200' spacing for each alternative; determine proposed row requirements and impacts	2 alternatives @	60	120
e. Updates to Capacity Analysis (Synchro 2040 Build Analysis - 2 Alternatives)	2 alternatives @	10	20
f. Develop Prelim. Construction Cost	2 alternatives @	16	32
	<u>Subtotal =</u>	<u>172</u>	

Preferred Alternative Development

g. Develop Detailed Geometry, Profiles, Typical Sections, and Cross Sections for the Preferred Alternative			100
h. Right-of-way and impacts determination for Preferred Alternative			24
i. Preferred Alternative Construction Cost Estimate			32
	<u>Subtotal =</u>	<u>156</u>	

Alternatives Development Meetings

j. Coordination Meetings with key stakeholders (LCDOT, LCSMC, LCFPD, IDOT BLR, Barrington, Deer Park, and Ela Township) - Assume 2 people at each meeting.	7 meetings @	4	28
k. Stakeholder Coordination Meeting Minutes	7 meetings @	2	14
l. Coordination Meetings with IDOT/FHWA - Assume 2 people at each meeting.	4 meetings @	6	24
m. IDOT/FHWA Coordination Meeting Minutes	4 meetings @	2	8
	<u>Subtotal =</u>	<u>74</u>	

n. **See Attached**

MTJ support work

TOTAL WORKHOURS 438

7 Traffic Management Analysis

a. Determine stage construction methodology, traffic maintenance requirements, detours (if required), and temporary construction easement needs.	24
b. Prepare Traffic Maintenance Analysis (TMA) report and exhibits	20
TOTAL WORKHOURS	44

8 Intersection Design Study

a. Prepare Capacity Analysis for the Preferred Alternative (HCS 2010 or Sidra, as applicable)	8
b. Prepare Preliminary Intersection Design Study (IDS) sheets, including AutoTURN analysis, for review by LCDOT and IDOT.	48
c. Prepare Final IDS and disposition of LCDOT and IDOT comments.	24
d. Peer review of roundabout design alternative	16
TOTAL WORKHOURS	96

9 Environmental Surveys, Analysis and Coordination

a. Coordination with Subconsultant	40
b. COSIM Pre-Screen Data Collection (IDOT to run COSIM)	6
c. See Attached Huff & Huff work	
TOTAL WORKHOURS	46

10 Project Development Report (PDR)

Preliminary PDR

a. Format Draft Report; Compile Maps, Charts, Graphs, and Exhibits	32
b. Write Draft Report	80
c. Print, Bind and submit copies to LCDOT and IDOT BLR for review	8
d. Revise report based on comments from LCDOT and IDOT BLR; provide disposition of comments	24
e. Print, Bind and submit copies to LCDOT and IDOT BLR for review	8
Subtotal =	152

Final PDR

f. Incorporate Public Hearing Inputs/ Disposition of Comments	24
g. Revise Preliminary Report and Write Summary and Conclusion	48
h. Revise Exhibits	20
i. Print, Bind, and Submit to LCDOT and IDOT BLR for approval	8
Subtotal =	100
TOTAL WORKHOURS	252

11 Public Involvement

Initial Coordination

a. Initial Coordination meetings with key stakeholders (LCDOT, LCSMC, LCFPD, IDOT BLR, Barrington, Deer Park, and Ela Township) - Assume 2 people at each meeting.	7 meetings @	4	28
b. Initial Key Stakeholder Coordination Meeting Minutes	7 meetings @	2	14
	<u>Subtotal =</u>	<u>42</u>	

Public Involvement Plan (PIP) Development; Project Logo

c. Identification of project stakeholders			6
d. Develop preliminary PIP and submit to LCDOT for initial review/concurrence			32
e. Updates to PIP			12
f. Develop Project Logo			16
	<u>Subtotal =</u>	<u>66</u>	

Public Informational Meeting (PIM)

g. Compile mailing list (stakeholders and adjacent property owners)			4
h. Preparation of PIM Brochure			16
i. Preparation of PIM display exhibits (existing conditions aerial, traffic data, crash data, environmental data, and other exhibits as appropriate)			40
j. Attendance at the PIM dry run with LCDOT	2 people @	4	8
k. Secure the PIM location			4
l. Preparation of PIM newspaper display ads, invite letters, press release, and e-blast			12
m. Staff attendance at the PIM	3 people @	6	18
n. Preparation of record summaries of the PIM which will include copies of all notices, presentation materials, attendance lists, comments, and responses provided.			8
o. Preparation of the PIM summary for posting on the project website.			12
	<u>Subtotal =</u>	<u>122</u>	

Stakeholder Involvement Group (SIG)

p. Identify location of each SIG with assistance from LCDOT (assume same location for all meetings)			4
q. Prepare meeting agenda and submit to LCDOT for concurrence	4 meetings @	1	4
r. Prepare SIG meeting invite letters and emails, and distribute pre-meeting materials.	4 meetings @	3	12
s. Prepare meeting presentation	4 meetings @	32	128
t. Prepare meeting exhibits and/or materials	4 meetings @	40	160
u. Prepare for and attend SIG dry run with LCDOT (assumes 2 people for 4 hours at each meeting)	4 meetings @	8	32
v. Staff attendance at the SIG (assumes 3 people for 6 hours at each meeting)	4 meetings @	18	72
w. Prepare SIG meeting summary and distribute	4 meetings @	6	24
	<u>Subtotal =</u>	<u>436</u>	

Public Meeting and Public Hearing

x. Updates to mailing list for both meetings (stakeholders and adjacent property owners)			4
y. Preparation of Brochures / Handouts	2 meetings @	16	32
z. Preparation of display exhibits (alternatives aerials, typical sections, and other displays as appropriate)	2 meetings @	60	120
aa. Preparation of PowerPoint Presentations (including script and voiceover)	2 meetings @	52	104

Ela Road (CH 57) and Long Grove Road (CH 49) Intersection
Section 14-00144-20-CH

bb. Attendance at the dry runs with LCDOT (2 people)	2 meetings @	8	16
cc. Secure the PM and PH location (assume same location at PIM)			2
dd. Preparation of newspaper display ads, invite letters, press release, and e-blast	2 meetings @	12	24
ee. Staff attendance at the PM and PH (3 people)	2 meetings @	18	36
ff. Preparation of record summaries of the PM and PH which will include copies of all notices, presentation materials, attendance lists, comments, and responses provided.	2 meetings @	8	16
gg. Prepare post PM and PH summary for posting on project website that will summarize the proceedings, general comments received and responses, and an overview of the next steps in project development.	2 meetings @	16	32
hh. Prepare responses to comments received at the PM and PH. (100 estimated)	2 meetings @	52	104
	<u>Subtotal =</u>	<u>490</u>	

Project Website

ii. Initial Website Design and Content			80
jj. Updates to content throughout project			60
kk. Upload of project documents and maintenance			20
	<u>Subtotal =</u>	<u>180</u>	

ll. **See Attached**

Huff & Huff support work

mm **See Attached**

MTJ support work

TOTAL WORKHOURS 1,336

12 Geotechnical aAnalysis

a. Coordination with Subconsultant			16
b. See Attached	Interra work		
		TOTAL WORKHOURS	<u>16</u>

13 Project Design Coordination Meetings

a. Bi-Weekly Project Status / Coordination Meetings (assumes 2 people for 1 hour each, 39 mtgs.)	39 meetings @	2	78
	TOTAL WORKHOURS		<u>78</u>

14 Project Administration and Quality Assurance / Quality Control

a. General Project Management and Administration (18 months, 8 hrs per month)			140
b. Monthly Progress Reports / Schedule (18 months, 2 hrs per month)			36
d. QA/QC			104
	TOTAL WORKHOURS		<u>280</u>

SUMMARY OF STV WORKHOURS:

1 Data Collection, Compilation, Review and Evaluation	106
2 Topographic Survey	16
3 Traffic Counts, Projections and Analysis	84
4 Crash Analysis	84
5 Location Drainage Study	494
6 Alternate Geometric Studies	438
7 Traffic Management Analysis	44
8 Intersection Design Study	96
9 Environmental Surveys, Analysis and Coordination	46
10 Project Development Report (PDR)	252
11 Public Involvement	1,336
12 Geotechnical aAnalysis	16
13 Project Design Coordination Meetings	78
14 Project Administration and Quality Assurance / Quality Control	280
Total	3,370

PAYROLL ESCALATION TABLE **FIXED RAISES**

FIRM NAME STV Incorporated
PRIME/SUPPLEMENT Prime

DATE 04/28/15
PTB NO. N/A

CONTRACT TERM 18 MONTHS
START DATE 5/15/2015
RAISE DATE 1/1/2016

OVERHEAD RATE 150.95%
COMPLEXITY FACTOR 0
% OF RAISE 3.00%

ESCALATION PER YEAR

5/15/2015 - 1/1/2016

1/2/2016 - 11/1/2016

8
18

10
18

= 44.44%

= 57.22%

= 1.0167

The total escalation for this project would be:

1.67%

PAYROLL RATES

FIRM NAME STV Incorporated DATE 04/28/15
 PRIME/SUPPLEMENT Prime
 PSB NO. N/A

ESCALATION FACTOR 1.67%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
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Professional 8	\$70.00	\$70.00 (Max)
Professional 7	\$70.00	\$70.00 (Max)
Professional 6	\$60.00	\$60.00 (Max)
Professional 5	\$54.41	\$55.32
Professional 4	\$44.86	\$45.61
Professional 3	\$41.33	\$42.02
Professional 2	\$36.16	\$36.76
Professional 1	\$29.24	\$29.73
Engineering Tech 5	\$51.98	\$52.85
Engineering Tech 4	\$38.32	\$38.96
Engineering Tech 1	\$27.70	\$28.16
Administrative Assistant 3	\$40.38	\$41.05
Administrative Assistant 2	\$28.77	\$29.25
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00

Subconsultants

FIRM NAME STV Incorporated
 PRIME/SUPPLEMENT Prime
 PSB NO. N/A

DATE 04/28/15

NAME	Direct Labor Total	Contribution to Prime Consultant
EDI	0.00	0.00
Huff and Huff	0.00	0.00
Interra	0.00	0.00
MTJ Roundabout Eng.	0.00	0.00
		0.00
		0.00
		0.00
		0.00
Total	0.00	0.00

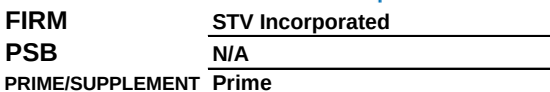


STV Incorporated
N/A
Prime

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DATE _____

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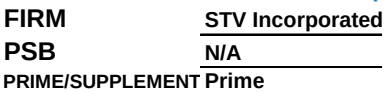


AVERAGE HOURLY PROJECT RATES

DATE 04/28/15

SHEET 1 OF 3

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Task 1 - Data Collection, Co			Task 2 - Topographic Surve			Task 3 - Traffic Counts, Pro			Task 4 - Crash Analysis			Task 5 - Location Drainage :		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Professional 8	70.00	0																	
Professional 7	70.00	631	18.72%	13.11	6	5.66%	3.96	8	50.00%	35.00	2	2.38%	1.67	4	4.76%	3.33	8	1.62%	1.13
Professional 6	60.00	0																	
Professional 5	55.32	0																	
Professional 4	45.61	1077	31.96%	14.58	16	15.09%	6.88	8	50.00%	22.80	24	28.57%	13.03	40	47.62%	21.72	344	69.64%	31.76
Professional 3	42.02	770	22.85%	9.60	30	28.30%	11.89				26	30.95%	13.01	8	9.52%	4.00			
Professional 2	36.76	496	14.72%	5.41	30	28.30%	10.40				16	19.05%	7.00	16	19.05%	7.00	100	20.24%	7.44
Professional 1	29.73	396	11.75%	3.49	24	22.64%	6.73				16	19.05%	5.66	16	19.05%	5.66	42	8.50%	2.53
Engineering Tech 5	52.85	0																	
Engineering Tech 4	38.96	0																	
Engineering Tech 1	28.16	0																	
Administrative Assista	41.05	0																	
Administrative Assista	29.25	0																	
		0																	
		0																	
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		0																	
TOTALS		3370	100%	\$46.19	106	100.00%	\$39.87	16	100%	\$57.80	84	100%	\$40.37	84	100%	\$41.72	494	100%	\$42.86

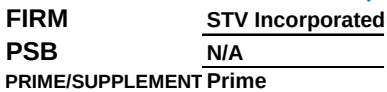


DATE 04/28/15

SHEET 2 OF 3

Printed 4/28/2015

Bureau of Design and
Environment (Rev. 04/03/15)



DATE 04/28/15

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Task 12 - Geotechnical Analysis			Task 14 - Project Design Coordination			Task 15 - Project Administration											
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Professional 8	70.00																		
Professional 7	70.00	8	50.00%	35.00	39	50.00%	35.00	256	91.43%	64.00									
Professional 6	60.00																		
Professional 5	55.32																		
Professional 4	45.61	8	50.00%	22.80	39	50.00%	22.80	24	8.57%	3.91									
Professional 3	42.02																		
Professional 2	36.76																		
Professional 1	29.73																		
Engineering Tech 5	52.85																		
Engineering Tech 4	38.96																		
Engineering Tech 1	28.16																		
Administrative Assist	41.05																		
Administrative Assist	29.25																		
TOTALS		16	100%	\$57.80	78	100%	\$57.80	280	100%	\$67.91	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00

Firm Name: STV Incorporated

LCDOT Section:
PTB/Item No: 14-00144-20-CH

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
Per Diem	Up to State Rate Maximum			
Lodging (Overnight)	Up to State Rate Maximum			
Lodging (Extended)	Actual Cost (based on IDOT's and firm's policy)			
Air Fare Coach Rate (with two weeks' notice)	As Approved			
Vehicles: Mileage	Up to State Rate Maximum	Up to State Rate Max.	2,500	\$137.50
Daily Rate (owned or leased)	\$45/day	\$45/day		
Overtime	(Premium Portion)	Prem. Portion		
Tolls	Actual Cost	Actual Cost	N/A	\$25.00
Digital Photo Processing	Actual Cost	Actual Cost		
Photo Processing	Actual Cost	Actual Cost		
Cell Phones – (traffic systems, survey, phase III only)	\$70/month/phone (maximum) – Phase III (max. of three without IDOT approval)	Actual Cost		
Telephone Usage (traffic system monitoring)	Actual Cost	Actual Cost		
2-Way Radio (survey or phase III only)	Actual Cost	Actual Cost		
Overnight Delivery/Postage/Courier Service	Actual Cost	Actual Cost	N/A	\$250.00
Copies of Deliverables/Mylars (in-house)	Actual Cost			
Copies of Deliverables/Mylars (outside)	Actual Cost	Actual Cost		
Specific Insurance (required for project)	Actual Cost	Actual Cost		
CADD	Actual Cost (max. \$15.00/hour)	Actual Cost		
Monuments (permanent)	Actual Cost			
Newspaper Advertisements	Actual Cost	Actual Cost	N/A	\$2,250.00
Web Site	Actual Cost	Actual Cost	N/A	\$600.00
Facility Rental for Public Meetings & Exhibits/Renderings & AV	Actual Cost	Actual Cost		\$2,100.00
Transcriptions (specific to project)	Actual Cost	Actual Cost		\$1,000.00
Recording Fees	Actual Cost	Actual Cost		
Courthouse Fees	Actual Cost	Actual Cost		
Testing of Soil Samples	Actual Cost	Actual Cost		
Lab Services	Actual Cost	Actual Cost		
Storm Sewer Cleaning and Televising	Actual Cost (requires 2-3 quotes)	Actual Cost		
Traffic Control and Protection	Actual Cost (requires 2-3 quotes)	Actual Cost		
Aerial Photography and Mapping	Actual Cost (requires 2-3 quotes)	Actual Cost		
Utility Exploratory Trenching	Actual Cost (requires 2-3 quotes)	Actual Cost		
Shift Differential	Actual Cost (based on firm's policy)	Actual Cost		
Project Site Travel	Actual Cost (based on IDOT's and firm's policy)	Actual Cost	N/A	
Equip. Rental Spec. for Proj. (snooper, lift, etc.)	Actual Cost (requires 2-3 quotes)	Actual Cost		
Specialized Equip. (as needed w/approval)	Actual Cost (requires 2-3 quotes)	Actual Cost		
Railroad Flagmen	Actual Cost	Actual Cost		
Printing Brochures for Public Meeting	Actual Cost	Actual Cost	N/A	\$1,500.00
Public Meeting Informational Display Signs	Actual Cost	Actual Cost	N/A	\$750.00

Item	Allowable	Contract (1) Rate	Quantity (n/a for work orders)	Total
Large Format Color Printing	Actual Cost	\$1.50/SF	N/A	\$4,000.00
Full Size Plots on Bond	Actual Cost	\$0.25/SF	N/A	\$1,000.00
Xerox Black and White Copies	Actual Cost	\$0.10/EA	N/A	\$750.00
Post Card Printing for Public Meeting	Actual Cost	Actual Cost	N/A	\$1,000.00
Color Copies	Actual Cost	\$0.75/EA	N/A	\$2,000.00
TOTAL				\$17,362.50

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



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STV, Inc.
200 West Monroe Street, Suite 1650
Chicago IL 60606

April 28, 2015

ATTN: Mr. John A. Clark, PE LEED AP
Assistant Chief Civil Engineer- Midwest Region, Senior Project Manager

Subject: Lake County DOT – Ela Road at Long Grove Road
Barrington and Deer Grove, Illinois

Dear Mr. Clark,

Pursuant to your request, following is a proposed scope of work for the subject project.

Task 2 - Topographic Survey

This task includes completion of topographic surveys within the project limits in accordance with LCDOT Survey Procedures which are included as Attachment A. As noted above, this includes approximately 4,900 feet or 0.93 miles of topographic survey along Ela Road and Long Grove Road.

STV will coordinate with LCDOT to prepare a survey right-of-entry letter for survey work on private property. STV will contact property owners, to the extent possible, in advance of surveying on private property.

The survey will be prepared to be used for both Phase I and Phase II Engineering Services. The topographic survey will extend 20 feet beyond the existing right-of-way line, beyond which the Lake County LiDAR mapping (1 foot contours) will be used. Supplemental field survey within the scope areas that is required to resolve LiDAR mapping voids or to resolve other topographic uncertainties shall be identified in advance of any field data collection. To ensure sufficient data is collected for possible roundabouts, the topographic survey will extend to a 300 feet by 300 feet square area at the Ela Road and Long Grove Road intersection.

On this basis, EDI will perform the following survey tasks in accordance with applicable Lake County Survey Procedures:

Horizontal Control: Utilizing state plane coordinates, EDI will set recoverable primary control utilizing GPS and robotic total station equipment. It is assumed that the control for the one-foot contour Lake County LiDAR mapping is Illinois State Plane East, NAD83 (2011).

Vertical Control: Since the nearest NGS Benchmarks are over 4 miles away from the project site, it is assumed that either LCDOT has benchmarks available in the vicinity of the project or that EDI will be allowed to establish vertical control (NAVD88) utilizing GPS and the nearest NGS vertical monuments. A level circuit within the above identified survey limits will be run to establish benchmarks and assign elevations to the horizontal control points.

Existing Right-of-Way: EDI will establish the approximate existing right-of-way along Ela Road and Long Grove Road within the identified survey limits, based on monumentation found in the field, and based on available plats of highways, subdivision plats and any other available information.

Topographic Survey: EDI will field locate all pavements, driveways, curb and gutters, pavement markings, signs, drainage structures, driveway culverts, cross road culverts, and other planimetric features within the above noted survey limits.

Cross Sections: EDI will survey cross sections at 50' intervals within the survey limits, at driveways, roadway culverts, and at all other grade controlling features. The cross sections will extend 20 feet beyond the existing right-of-way line.

Utility Survey: All visible storm and sanitary sewers will be surveyed to determine rim and invert elevations, pipe sizes and directions. Above ground facilities of any additional underground utilities including water main, gas, electric, cable, etc. will also be located. STV will work with the LCDOT Utility Coordinator to retrieve existing utility plans and to determine if any JULIE locates will be required for the Phase I Study.

Tree Survey: EDI will locate and size all trees 6 inches in diameter breast height (dbh) and greater within the above noted survey limits, with the exception of trees surveyed within LCFPD property. All trees within LCFPD property will be located, regardless of dbh, in accordance with LCFPD policies. The tree survey will extend 20 feet outside of the existing right-of-way where practical. Contingent upon the preferred alternative for each intersection, additional tree survey outside of these limits could be required, which would be completed as part of supplemental survey.

Base Mapping: EDI will compile all of the above information into one base map at 1"=20' scale that is representative of existing conditions for use in all Phase I and Phase II engineering work in developing the detailed plan, profile and cross sections for the preferred alternative.

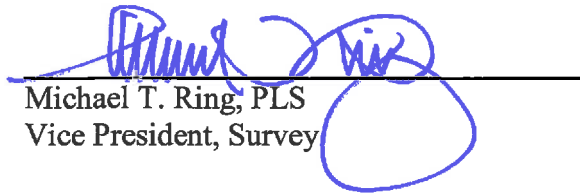
Supplemental Field Survey: EDI will perform supplement field surveys as necessary over the duration of the project to resolve conflicts such as utilities, drainage features, etc., to complete LiDAR mapping voids due to trees/brush, to pick-up any new developments/features along the corridor as required, and to pick-up additional tree survey areas if required based on the preferred alternative at each intersection.

Specific work items under this task will include:

- Coordination with LCDOT for survey right-of-entry letter.
- Coordination with LCDOT Utilities Coordinator.
- Completion of topographic survey.
- Supplemental survey.

Respectfully,

Environmental Design International inc.



Michael T. Ring, PLS
Vice President, Survey

**PAYROLL ESCALATION TABLE
FIXED RAISES**

FIRM NAME ENVIRONMENTAL DESIGN INTERNATIONAL, INC
PRIME/SUPPLEMENT _____

DATE 04/24/15
PTB NO. _____

CONTRACT TERM 18 MONTHS
START DATE 5/15/2015
RAISE DATE 7/1/2015

OVERHEAD RATE 144.74%
COMPLEXITY FACTOR 0
% OF RAISE 3.00%

ESCALATION PER YEAR

5/15/2015 - 7/1/2015

2
18

= 11.11%
= 1.0335

7/2/2015 - 7/1/2016

12
18

68.67%

7/2/2016 - 11/1/2016

4
18

23.58%

The total escalation for this project would be:

3.35%

PAYROLL RATES

FIRM NAME
PRIME/SUPPLEMENT
PSB NO.

ENVIRONMENTAL DESIGN DATE

04/24/15

ESCALATION FACTOR

3.35%

[illegible]

DF-824-039
REV 12/04
04/24/15

DATE _____

1.4474

0

DBE 100.00%

Printed 4/24/2015 3:56 PM

AVERAGE HOURLY PROJECT RATES

FIRM ENVIRONMENTAL DESIGN INTERNATIONAL, INC
 PSB _____
 PRIME/SUPPLEMENT _____

DATE 04/24/15

SHEET 1 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Project Management			Research & Control			Alignment & Stationing			Topography & Utilities			FPD Trees		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Survey Manager	52.71	28	6.71%	3.54	15	18.75%	9.88	2	5.88%	3.10	1	1.61%	0.85	7	4.24%	2.24	1	2.22%	1.17
PLS	39.79	117	28.06%	11.16	65	81.25%	32.33	16	47.06%	18.73	6	9.68%	3.85	22	13.33%	5.31	4	8.89%	3.54
Survey Crew Chief	30.44	106	25.42%	7.74				8	23.53%	7.16	24	38.71%	11.78	50	30.30%	9.22	16	35.56%	10.82
Instrument Person	21.58	106	25.42%	5.49				8	23.53%	5.08	24	38.71%	8.35	50	30.30%	6.54	16	35.56%	7.67
CADD Technician	33.21	60	14.39%	4.78							8	12.90%	4.28	36	21.82%	7.25	8	17.78%	5.90
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TOTALS		417	100%	\$32.70	80	100.00%	\$42.21	34	100%	\$34.07	62	102%	\$29.12	165	100%	\$30.55	45	100%	\$29.11

AVERAGE HOURLY PROJECT RATES

FIRM ENVIRONMENTAL DESIGN INTERNATIONAL, INC

PSB

PRIME/SUPPLEMENT

DATE 04/24/15

SHEET 2 OF 2

PAYROLL	AVG	Pickup Survey																	
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
Survey Manager	52.71	2	6.67%	3.51															
PLS	39.79	4	13.33%	5.31															
Survey Crew Chief	30.44	8	26.67%	8.12															
Instrument Person	21.58	8	26.67%	5.75															
CADD Technician	33.21	8	26.67%	8.86															
TOTALS		30	100%	\$31.55	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00

BDE 436 (Rev. 09/30/13)

April 22, 2015

Mr. John Clark, P.E.
STV, Inc.
200 West Monroe, Suite 1650
Chicago, IL 60606-5015

**Re: Environmental Services
Ela Road Intersection at Long Grove Road
Lake County Division of Transportation
Barrington, Deer Park, Lake County, Illinois
Proposal No.: 81.PT00018.16**

Dear Mr. Clark:

Huff & Huff, Inc. (H&H) is pleased to provide this scope of services for conducting various environmental services for the referenced project in Lake County, Illinois. This proposal presents our project understanding, the scope of services, and cost for completing the project.

1. PROJECT UNDERSTANDING

The following scope of environmental services will be completed by H&H for the proposed Phase I Engineering Services for the identified improvement project in Lake County, Illinois. The project is located entirely within an area of local roads including approximately one mile of improvements along North Ela Road and West Long Grove Road in Barrington and Deer Park, Illinois. For purposes of this scope, the area has been expanded to include the residential properties at the intersection of the roadways for the potential installation of a roundabout intersection design. It is also understood that storm water retention/infiltration areas may be necessary in the northern portion of the project area within the current forest preserve area. It is assumed that appropriate access will be granted to the areas outside of the current ROW prior to beginning the environmental services.

2. SCOPE OF SERVICES

The following scope of services will be completed for the Ela Road intersection project. These include: special waste services including Preliminary Environmental Site Assessment (PESA), wetland services, tree survey, Section 4(f) coordination, CSS and public involvement, water quality issues, and threatened & endangered (T&E) Species consultation. A photo log will be developed of the structures in the project limits to document potential historic, archeological, or architectural services, which will be submitted to the Illinois Historic Preservation Agency.

Task 1 – Preliminary Environmental Site Assessment (PESA)

H&H will prepare separate Preliminary Environmental Site Assessment for the Project Corridor. The process will follow general protocols associated with ASTM E1527-13, which is a standard environmental site assessment methodology and IDOT procedures. These protocols are consistent with the "Preliminary Site Assessment (PESA)" procedures outlined by the Illinois Department of Transportation (IDOT) in BDE #66-10A and the "Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects." No soil sampling is included in this task. Soil management and CCDD issues will be investigated during Phase 2 and is not included in this scope of services.

A. Historical Research

The project corridors historical land use/ownership records will be developed from standard historical sources. Historical aerial photographs or historical maps, such as Sanborn Fire Insurance Maps, will be reviewed, as available. The review will identify land use over time and potential areas of environmental concern, such as areas of surface disturbance and outside storage.

B. Site Evaluation

Current environmental features and conditions of sites adjacent to the right-of-way/project areas will be evaluated. A site walkover of potential right-of-way/project areas designated for excavation and/or acquisition will be conducted for first-hand evaluation of current environmental conditions within the project limits. All of the features and conditions listed above will be investigated and, as appropriate, documented in photographs. The land-use and housekeeping practices of adjacent properties also will be evaluated in accordance with ASTM protocols.

C. Records Review

A records review will be conducted to determine potential environmental concerns within the study areas. The reviews will include a search of standard state and federal environmental record databases in accordance with the specifications of ASTM standards. The searches are based on the outline of the study areas.

Specifically, H&H will search each database to identify any potential sources requiring further investigation. As appropriate, Freedom of Information Act (FOIA) requests will be filed with the Illinois Environmental Protection Agency (IEPA) to obtain additional data pertaining to identified sites.

D. Report Preparation

A PESA report summarizing the results of the evaluation will be prepared for each of the project corridors. The following information will be included in these reports:

- a) The project location and description
- b) Historical uses of corridor.
- c) The area geology and hydrology.

- d) The environmental status of sites adjacent to the corridor regarding chemical use and storage, underground and aboveground storage tanks, solid waste, special waste, and hazardous waste, wastewater, and PCBs.
- e) An analysis of the site inspection.
- f) A summary of the findings regarding any environmental concerns. This will include IDOT's per Memo 66-10 and identification of Potentially Impacted Properties (PIPs) per Subpart F, Section 1100, 35 IAC, related to Clean Construction Demolition Debris management.

Task 2 - Wetland/WOUS Delineation

H&H will conduct a wetland and WOUS delineation using current methods and guidance and methodologies from the U.S. Army Corps of Engineers (COE). The assessment will include a document review (soils, topographic, wetlands, hydric soils, floodplain, and aerial photography mapping), an on-site field investigation, and a report summarizing findings, including mapping.

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 maps reviewed and to be used include:

- U.S. Geological Survey Topographic Maps
- National Wetlands Inventory (NWI) Maps
- Lake County Soil Survey
- Lake County Wetland Inventory Maps
- Lake County ADID Wetland Maps
- Flood Insurance Rate Maps
- Aerial Photography

B. On-Site Investigation (Field Inventory)

The on-site investigation will be conducted by H&H staff experienced in Federal methods for conducting wetland delineations. H&H will classify and define hydric soils, hydrophytic vegetation, and evidence of hydrology to determine if wetlands are present. The wetland perimeters will be surveyed in the field by H&H.

A wetland and WOUS delineation of the project site will be conducted to meet the requirements of Executive Order 11990, "Protection of Wetlands;" Section 404 of the Federal Water Pollution Control Act as amended by the Clean Water Act (COE, Section 404 Permit) and Illinois Environmental Protection Agency (IEPA, Section 401 Guidelines) regulations. These regulations pertain to the placement of fill or alterations of drainage within wetlands of any type and apply to privately as well as publicly-owned wetlands. The investigation will meet the requirements of these regulations by identifying the type, functions, and approximate boundaries of all wetlands and WOUS.

Wetlands found will be classified according to type using the "Classification of Wetlands and Deep Water Habitats of the United States" by Cowardin. Wetland and WOUS boundaries will be defined using the 2010 "*COE Midwest Region Manual*" (COE, 2010). Each potential wetland and WOUS area will be evaluated for the presence of wetland indicators comprised of hydrophytic vegetation, hydric soils, and wetland hydrology. Functions of wetlands will be evaluated from field observations as well. All areas exhibiting wetland and WOUS characteristics within the project limits will be investigated.

The entire area within the proposed project limits will be investigated in the event that unmapped wetlands are present. As the wetland maps are developed to be used as a general planning tool, detailed field investigations are required to ascertain whether or not wetlands are present. All areas exhibiting wetland characteristics within the project limits will be investigated.

H&H will flag the wetland perimeters and pick up the survey using GPS. H&H will download the data and provide a file to STV with wetland and data point locations.

This task includes time for a boundary verification and preliminary jurisdictional determination with the Lake County Stormwater Management Commission; however, fees for the boundary verification and jurisdictional determination are not included in this cost estimate as the fees are based on the amount of wetlands present which is not known at this time.

Task 3. Wetland Report

A wetland and WOUS delineation report will be prepared summarizing the findings of the fieldwork. Based on reviewed information, wetlands and WOUS are present and this report will be needed.

Specific items to be included are as follows:

- a) Map showing the wetland/WOUS boundaries and project boundaries
- b) COE data sheets with color photos
- c) Written description of wetland functional classification
- d) Floristic Quality Index Rating assessment
- e) Permitting Summary
- f) Jurisdictional Summary Table
- g) Identification of 303d impaired waterways

Wetland permitting will be conducted in Phase 2 and is not included in this scope of work. The preliminary jurisdictional determination and boundary verification will be conducted during this phase of the project to provide a completed delineation document for Phase 2 permitting.

Task 4 – Tree Survey

H&H will complete a tree survey for the project corridor with particular focus on the trees along the Cuba Marsh Forest Preserve sites. Trees along the project that are not along or within the forest preserve site will be surveyed at six inches diameter breast height (dbh) and greater. The Forest Preserve District requires that all trees on forest preserve land will be surveyed. Tree tagging and surveying will be performed by others. H&H will identify the trees to species level and determine health, structure, and origin. H&H will also note whether any trees are of exceptional size and condition and determine which trees are worth avoidance, if any. During the survey, H&H will identify any trees that may be providing suitable habitat for the northern long-eared bat which was recently listed as federally threatened by the US Fish & Wildlife Service.

Trees surveyed and proposed for removal that are on forest preserve property will need to be coordinated with the Forest Preserve District and will be part of the Section 4(f) coordination that will be initiated for the project.

Task 5 – Tree Tabulation/Report

H&H will complete tabulation tables with the information gathered from the field survey. Station and offset information will be provided by STV. All the information will be tabulated and summarized on the tables. Upon completion of the tree tabulation, a summary memorandum will be prepared. Trees providing habitat for the federally threatened northern long-eared bat will be tabulated and potential mitigation options will be identified.

Task 6 – Section 4(f)

The Cuba Marsh Forest Preserve is located on both sides of Ela Road north of Long Grove Road, with the majority of the site located on the west side of Ela Road. On the west side, Cuba Marsh Forest Preserve extends south to the intersection of Ela Road and Long Grove Road. Regardless of the design of the proposed new intersection (roundabout vs conventional) it is anticipated that forest preserve land may be acquired for the project. As the project is being planned to be eligible for future federally funding, Section 4(f) coordination will be required to maintain the eligibility.

H&H will work with STV during the development of the Phase 1 intersection design to determine the level of impacts to the forest preserve sites. Data collection on the forest preserve will be initiated that will include information of funding used for the site, current and anticipated uses, recreational facilities and programs and other issues that may arise during coordination with the Forest Preserve District. This will also include conversion of open natural areas to rights-of-way and the potential removal of trees and wildlife habitat.

As part of the coordination, a Section 4(f) report will be prepared that summarizes the coordination efforts. Early in the Section 4(f) process, H&H will request guidance from the Federal Highway Administration and IDOT to determine the level of processing. It is anticipated that the project could be processed as a Programmatic Action, but the team will pursue the potential for a de minimis action which will require less coordination and reporting.

Task 7 – Context Sensitive Solutions (CSS)

LCDOT indicated that CSS principles should be implemented for the project. Stakeholder involvement will most likely be necessary for the project given the sensitivity of the forest preserve sites and local interest in the project. The intent of the CSS process will be to involve stakeholders in the development of project alternatives. H&H will participate in the Stakeholder Involvement Group (SIG) meetings when environmental issues will be presented and/or discussed. Four SIG meetings are expected for the project. Prior to each SIG meeting attendance at dry runs is anticipated in preparation for the meetings.

Task 8 – Public Meetings/Hearing

H&H will be present during the anticipated two public meetings and one public hearing to answer questions and address environmental issues for the project. H&H will also participate in three dry runs meetings prior to the formal public meetings and hearing.

Task 12 – Water Quality

Because of the presence of the Cuba Marsh Forest Preserve, the quality of roadway runoff will most likely be an important issue to the residents and the Forest Preserve District. H&H will investigate best management practice (BMP) measures that could be implemented for this project to treat stormwater before being released to adjacent properties and water features. The BMPs that could be incorporated into the stormwater management plan include bioswales, natural vegetated swales, infiltration trenches and basins, and water quality basins. Additionally, salt spray may be identified as a potential issue and BMPs may incorporate features to minimize salt spray.

Task 13– Threatened and Endangered (T&E) Species Consultation and IHPA Coordination

H&H will complete a threatened and endangered species consultation for federally listed species. Consultation will include a field analysis of habitat and a Section 7 letter, following the online USFWS guidelines.

For state-listed species, H&H will submit an EcoCAT through the Illinois Department of Natural Resources. This proposal does not include specific species surveys.

A photo log will be developed of historical structures and submitted to IHPA to provide information regarding historical/cultural sites in the project area.

Task 14 – Project Management

This task covers items necessary to manage the project, scheduling, and coordination with STV.

3. PROJECT COST

The project cost is provided in the CECS Form attached to this proposal. Costs will be invoiced as a cost plus fixed fee

4. SCHEDULE

The scope is based on wetland delineation to be scheduled during the growing season (approximately April 15 to October 15). If the delineation is completed outside of the growing season, additional field visits would be required and is not included in this scope of services. The PESA will be scheduled within 10 days of the notice to proceed with an anticipated completion within six (6) weeks. The anticipated completion of PSI/CCDD activities, as necessary, is approximately eight (8) weeks following the PESA.

5. TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

These Terms and Conditions, together with Huff & Huff's Proposal, make up the Agreement between with Huff & Huff, STV, Inc., named above.

1. Services. H&H will perform the services set forth in its Proposal and any amendments or change orders authorized by you. Any request or direction from you that would require extra work or additional time for performance or would result in an increase in H&H's costs will be the subject of a negotiated amendment or change order.

2. Standard of Care. H&H will perform the services with the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services at the same time under similar conditions in the same or similar locality. **NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTY OF MARKETABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS MADE OR INTENDED BY H&H'S PROPOSAL OR BY ANY OF H&H'S ORAL OR WRITTEN REPORTS.**

3. Payment.

- a. Except as otherwise stated in the Proposal, you will compensate H&H for the services at the rates set forth in the applicable Proposal, amendment or change order; reimburse its expenses, which will include a communication fee calculated as a percentage of labor invoiced; and pay any sales or similar taxes thereon.
- b. Any retainer specified in H&H's Proposal shall be due prior to the start of services and will be applied to the final invoice for services.
- c. H&H will submit invoices periodically, and payment will be due within 20 days from invoice date. Overdue payments will bear interest at 1½ percent per month or, if lower, the maximum lawful rate. H&H may terminate its services upon 10 days' written notice anytime your payment is overdue on this or any other project and you will pay for all services through termination, plus

termination costs. You will reimburse H&H's costs of collecting overdue invoices, including reasonable attorneys' fees.

4. Your Responsibilities.

- a. Except as otherwise agreed, you will secure the approvals, permits, licenses and consents necessary for performance of the services. If you are the owner or operator of the Site, you will provide H&H with all documents, plans, information concerning underground structures (including but not limited to utilities, conduits, pipes, and tanks), information related to hazardous materials or other environmental or geotechnical conditions at the site and other information that may be pertinent to the services or, if you are not the owner or operator of the Site, you agree to make reasonable efforts to obtain these same documents and provide them to H&H. Unless otherwise indicated in writing, H&H will be entitled to rely on documents and information you provide.
- b. If you use the services of a construction contractor at the Site, you agree to use best and reasonable efforts to include in your agreement(s) with the construction contractor provisions obligating the latter:
 - (i) to indemnify, defend and hold harmless, to the fullest extent permitted by law, you and H&H, its officers, employees and principals, for or on account of any claims, liabilities, costs and expenses, including attorneys' fees, arising out of or relating to the design or implementation of construction means, methods, procedures, techniques, and sequences of construction, including safety precautions or programs, of the contractor, or any of its subcontractors or any engineer engaged by it;
 - (ii) to name you and H&H as additional insureds under general liability and builder's risk insurance coverages maintained by the contractor, or any of its subcontractors; and
 - (iii) to require that all of its subcontractors agree and be bound to the obligations set forth in (i) and (ii) above.
- c. In the event that you are unable to secure such provisions in the agreement(s) with the construction contractor, you shall promptly notify H&H and H&H shall have the opportunity to negotiate with you reasonable substitute risk allocation and insurance indemnities and protections.

5. Right of Entry. You grant H&H and its subcontractor(s) permission to enter the site to perform the services. If you do not own the site, you represent and warrant that the owner has granted permission for H&H to enter the site and perform the services; you will provide reasonable verification on request; and you will indemnify H&H for any claims by the site owner related to alleged trespass by H&H or its subcontractors.

6. Reliance. The services, information, and other data furnished by you shall be at your expense, and H&H may rely upon all information and data that you furnish, including the accuracy and completeness thereof. You acknowledge that the quality of the services provided by H&H is directly related to the accuracy and completeness of the information and data that you furnish to H&H. **H&H's REPORTS ARE PREPARED FOR AND MADE AVAILABLE FOR YOUR SOLE USE. YOU ACKNOWLEDGE AND AGREE THAT USE OF OR RELIANCE UPON THE REPORT OR THE FINDINGS IN THE REPORT BY ANY OTHER PARTY, OR**

FOR ANY OTHER PROJECT OR PURPOSE, SHALL BE AT YOUR OR SUCH OTHER PARTY'S SOLE RISK AND WITHOUT ANY LIABILITY TO H&H.

7. H&H Professionals. H&H employees or consultants may act as licensed, certified or registered professionals (including but not limited to Professional Engineers, Licensed Site or Environmental Professionals, or Certified Industrial Hygienists, collectively referred to in this section as “H&H Professionals”) whose duties may include the rendering of independent professional opinions. You acknowledge that a federal, state or local agency or other third party may audit the services of H&H or other contractor/consultant(s), which audit may require additional services, even though H&H and such H&H Professionals have each performed such services in accordance with the standard of care set forth herein. You agree to compensate H&H for all services performed in response to such an audit, or to meet additional requirements resulting from such an audit, at the rates set forth in the applicable Proposal, amendment or change order.

8. Hazardous Materials; H&H “Not a Generator”. Before any hazardous or contaminated materials are removed from the site, you will sign manifests naming you as the generator of the waste (or, if you are not the generator, you will arrange for the generator to sign). You will select the treatment or disposal facility to which any waste is taken. H&H will not be the generator or owner of, nor will it possess, take title to, or assume legal liability for any hazardous or contaminated materials at or removed from the site. H&H will not have responsibility for or control of the site or of operations or activities at the site other than its own. H&H will not undertake, arrange for or control the handling, treatment, storage, removal, shipment, transportation or disposal of any hazardous or contaminated materials at or removed from the site, other than any laboratory samples it collects or tests. You agree to defend, indemnify and hold H&H harmless for any costs or liability incurred by H&H in defense of or in payment for any legal actions in which it is alleged that H&H is the owner, generator, treater, storer or disposer of hazardous waste.

9. Limits on H&H's Responsibility. H&H will not be responsible for the acts or omissions of contractors or others at the site, except for its own subcontractors and employees. H&H will not supervise, direct or assume control over or the authority to stop any contractor's work, nor shall H&H's professional activities or the presence of H&H or its employees and subcontractors be construed to imply that H&H has authority over or responsibility for the means, methods, techniques, sequences or procedures of construction, for work site health or safety precautions or programs, or for any failure of contractors to comply with contracts, plans, specifications or laws. Any opinions by H&H of probable costs of labor, materials, equipment or services to be furnished by others are strictly estimates and are not a guarantee that actual costs will be consistent with the estimates.

10. Changed Conditions.

- a. You recognize the uncertainties relating to the furnishing of professional services, which often require a phased or exploratory approach, with the need for additional services becoming apparent during the initial services. You also recognize that actual conditions encountered may vary significantly from those anticipated, that laws and regulations are subject to change, and that the requirements of regulatory authorities are often unpredictable.

- b. If changed or unanticipated conditions or delays make additional services necessary or result in additional costs or time for performance, H&H will notify you and the parties will negotiate appropriate changes to the scope of services, compensation and schedule.
- c. If no agreement can be reached, H&H will be entitled to terminate its services and to be equitably compensated for the services already performed. H&H will not be responsible for delays or failures to perform due to weather, labor disputes, intervention by or inability to get approvals from public authorities, acts or omissions on your part or any other causes beyond H&H's reasonable control, and you will compensate H&H for any resulting increase in its costs.

11. Documents and Information. All documents, data, calculations and work papers prepared or furnished by H&H are instruments of service and will remain H&H's property. Designs, reports, data and other work product delivered to you are for your use only, for the limited purposes disclosed to H&H. Any delayed use, use at another site, use on another project, or use by a third party will be at the user's sole risk, and without any liability to H&H. Any technology, methodology or technical information learned or developed by H&H will remain its property. Provided H&H is not in default under this Agreement, H&H's designs will not be used to complete this project by others, except by written agreement relating to use, liability and compensation.

12. Electronic Media. In accepting and utilizing any drawings, reports and data on any form of electronic media generated by H&H, you covenant and agree that all such electronic files are instruments of service of H&H, who shall be deemed the author, and shall retain all common law, statutory law and other rights, including copyrights. In the event of a conflict between the signed documents prepared by H&H and electronic files, the signed documents shall govern. You agree not to reuse these electronic files, in whole or in part, for any purpose or project other than the project that is the subject of this Agreement. Any transfer of these electronic files to others or reuse or modifications to such files by you without the prior written consent of H&H will be at the user's sole risk and without any liability to H&H.

13. Confidentiality; Subpoenas. Information about this Agreement and H&H's services and information you provide to H&H regarding your business and the site, other than information available to the public and information acquired from third parties, will be maintained in confidence and will not be disclosed to others without your consent, except as H&H reasonably believes is necessary: (a) to perform its services; (b) to comply with professional standards to protect public health, safety and the environment; and (c) to comply with laws and court orders. H&H will make reasonable efforts to give you prior notice of any disclosure under (b) or (c) above. You will reimburse H&H for responding to any subpoena or governmental inquiry or audit related to the services, at the rates set forth in the applicable Proposal, amendment or change order.

14. Insurance. During performance of the services, H&H will maintain workers compensation, commercial general liability, automobile liability, and professional liability insurance. H&H will furnish you certificates of such insurance on request.

15. Indemnification. You agree to hold harmless, indemnify, and defend H&H and its affiliates and subcontractors and their employees, officers, directors and agents (collectively referred to in this

paragraph as "H&H") against all claims, suits, fines and penalties, including mandated cleanup costs and attorneys' fees and other costs of settlement and defense, which claims, suits, fines, penalties or costs arise out of or are related to this Agreement or the services, except to the extent they are caused by H&H's negligence or willful misconduct.

16. Limitation of Remedies.

- a. Any claim will be deemed waived unless received by H&H within one year of substantial completion of the services.
- b. H&H will not be liable for lost profits, loss of use of property, delays, or other special, indirect, incidental, consequential, punitive, exemplary or multiple damages.
- c. H&H will not be liable to you or the site owner for injuries or deaths suffered by H&H's or its subcontractors' employees.
- d. You will look solely to H&H for your remedy for any claim arising out of or relating to this Agreement, including any claim arising out of or relating to alleged negligence or errors or omissions of any H&H principal, officer, employee or agent.

17. Disputes.

- a. All disputes between you and H&H shall be subject to non-binding mediation.
- b. Either party may demand mediation by serving a written notice stating the essential nature of the dispute, the amount of time or money claimed, and requiring that the matter be mediated within forty-five (45) days of service of notice.
- c. The mediation shall be administered by the American Arbitration Association in accordance with its most recent Construction Mediation Rules, or by such other person or organization as the parties may agree upon.
- d. No action or suit may be commenced unless mediation has occurred but did not resolve the dispute, or unless a statute of limitation period would expire if suit were not filed prior to such forty-five (45) days after service of notice.

18. Miscellaneous.

- a. Massachusetts law shall govern this Agreement.
- b. The above terms and conditions regarding Limitation of Remedies and Indemnification shall survive the completion of the services under this Agreement and the termination of the contract for any cause.
- c. Any amendment to these Terms and Conditions must be in writing and signed by both parties.
- d. Having received these Terms and Conditions, your oral authorization to commence services, your actions, or your use of the Report or Work Product constitutes your acceptance of them.
- e. This Agreement supersedes any contract terms, purchase orders or other documents issued by you.
- f. Neither party may assign or transfer this Agreement or any rights or duties hereunder without the written consent of the other party.
- g. Your failure or the failure of your successors or assigns to receive payment or reimbursement from any other party for any reason whatsoever shall not absolve you, your successors or assigns of any obligation to pay any sum to H&H under this agreement.

- h. These Terms and Conditions shall govern over any inconsistent terms in H&H's Proposal.
- i. The provisions of this Agreement are severable; if any provision is unenforceable it shall be appropriately limited and given effect to the extent it is enforceable.
- j. The covenants and agreements contained in this Agreement shall apply to, inure to the benefit of and be binding upon the parties hereto and upon their respective successors and assigns.

BOTH PARTIES HERETO WARRANT AND REPRESENT that they have full right, power, and authority to execute this Contract.

IN WITNESS THEREOF, the parties hereto have executed this Agreement as of the day and year first specified above.

CONSULTANT
HUFF & HUFF, INC.

CLIENT
STV, INC.



Signature

Signature

By Linda L. Huff, P.E.

Typed Name

Typed Name

Principal

Officer's Title

Officer's Title

April 22, 2015

Date

Date

Payroll Escalation Table
Fixed Raises

FIRM NAME Huff & Huff, Inc.
 PRIME/SUPPLEMENT STV

DATE 4/24/2015
 PTB NO. _____

CONTRACT TERM 18 MONTHS
 START DATE 5/1/2015
 RAISE DATE 3/1/2016

OVERHEAD RATE 148.80%
 COMPLEXITY FACTOR 0
 % OF RAISE 3.00%

ESCALATION PER YEAR

5/1/2015 - 3/1/2016

3/2/2016 - 11/1/2016

10
18

8
18

= 55.56%
 = 1.0133

45.78%

1.33%

The total escalation for this project would be:

Payroll Rates

FIRM NAME	<u>Huff & Huff, Inc.</u>	DATE	<u>4/24/2015</u>
PRIME/SUPPLEMENT	<u>STV</u>		
PTB NO.	<u> </u>		

ESCALATION FACTOR 1.33%

CLASSIFICATION	CURRENT RATE	ESCALATED RATE
Principal	\$70.00	\$70.00
Senior Geotechnical Cons.	\$56.96	\$57.72
Senior Consultant	\$52.89	\$53.60
Senior Geologist PM	\$53.26	\$53.97
Senior Engineering PM	\$38.48	\$38.99
Senior Scientist PM	\$41.11	\$41.66
Senior Planning PM	\$43.51	\$44.09
Engineering PM	\$37.02	\$37.51
Geologist PM	\$38.47	\$38.98
Scientist PM II	\$32.94	\$33.38
Scientist PM I	\$39.67	\$40.20
Asst. PM Engineer II	\$36.54	\$37.03
Asst. PM Engineer I	\$28.85	\$29.23
Asst. PM Planning	\$30.77	\$31.18
Sr. Technical Specialist	\$41.83	\$42.39
Sr. CADD Specialist	\$30.29	\$30.69
Environmental Engineer	\$31.74	\$32.16
Environmental Scientist E1	\$24.04	\$24.36
Environmental Scientist E2	\$22.12	\$22.41
Administrative Managers	\$37.26	\$37.76
Sr. Administrative Asst.	\$26.00	\$26.35
Administrative Assistant	\$21.16	\$21.44
Senior PM II	\$57.69	\$58.46
Senior PM I	\$38.70	\$39.22
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00

**Cost Estimate of
Consultant Services
(CPFF)**

Firm Huff & Huff, Inc.
 Route Ela Road at Long Grove Road
 Section _____
 County Lake
 Job No. _____
 PTB & Item _____

Date 4/24/2015

Overhead Rate 148.80%

Complexity Factor 0

Item	Manhours	Payroll	Overhead & Fringe Benefits	In-House Direct Costs	Fixed Fee	Outside Direct Costs	Services By Others	Total	% of Grand Total
PESA	46	1,526.85	2,271.95		550.83	370.00	0.00	4,719.63	8.79%
Wetland Delineation	24	801.10	1,192.04		289.01	0.00	0.00	2,282.14	4.25%
Wetland Report	41	1,403.39	2,088.24		506.29	40.00	0.00	4,037.91	7.52%
Tree Survey	30	910.68	1,355.10		328.54	0.00	0.00	2,594.32	4.83%
Tree Report	35	1,034.47	1,539.29		373.20	40.00	0.00	2,986.96	5.56%
Section 4(f)	91	4,244.20	6,315.37		1,531.14	40.00	0.00	12,130.71	22.59%
CSS	59	2,882.16	4,288.66		1,039.77	0.00	0.00	8,210.59	15.29%
Public Meetings/Hearing	44	2,221.75	3,305.97		801.52	0.00	0.00	6,329.24	11.78%
Water Quality	32	1,326.59	1,973.97		478.58	0.00	0.00	3,779.14	7.04%
T&E Species/IHPA	21	703.14	1,046.28		253.67	20.00	0.00	2,023.08	3.77%
Project Management	8	429.33	638.84	1,467.40	367.66	0.00	0.00	2,903.23	5.41%
QA/QC	10	601.57	895.14		217.02	0.00	0.00	1,713.73	3.19%
TOTALS	441	18,085.24	26,910.84	1,467.40	6,737.20	510.00	0.00	53,710.68	100.00%

Average Hourly Project Rates

Route Ela Road at Long Grove Road
Section _____
County Lake
Job No. _____
PTB/Item _____

Consultant Huff & Huff, Inc.

Date 4/24/2015

Sheet 1 **OF** 3

Payroll Classification	Avg Hourly Rates	Total Project Rates			PESA			Wetland Delineation			Wetland Report			Tree Survey			Tree Report		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	70.00	14	3.17%	2.22	1	2.17%	1.52												
Senior Geotechnical Cons.	57.72	0																	
Senior Consultant	53.60	118	26.76%	14.34							1	2.44%	1.31	1	3.33%	1.79	1	2.86%	1.53
Senior Geologist PM	53.97	0																	
Senior Engineering PM	38.99	0																	
Senior Scientist PM	41.66	3	0.68%	0.28	3	6.52%	2.72												
Senior Planning PM	44.09	60	13.61%	6.00															
Engineering PM	37.51	0																	
Geologist PM	38.98	0																	
Scientist PM II	33.38	100	22.68%	7.57				24	100.00%	33.38	34	82.93%	27.68	16	53.33%	17.80	16	45.71%	15.26
Scientist PM I	40.20	0																	
Asst. PM Engineer II	37.03	20	4.54%	1.68															
Asst. PM Engineer I	29.23	0																	
Asst. PM Planning	31.18	10	2.27%	0.71															
Sr. Technical Specialist	42.39	19	4.31%	1.83							3	7.32%	3.10						
Sr. CADD Specialist	30.69	23	5.22%	1.60	5	10.87%	3.34				2	4.88%	1.50	1	3.33%	1.02	1	2.86%	0.88
Environmental Engineer	32.16	35	7.94%	2.55	35	76.09%	24.47												
Environmental Scientist E1	24.36	28	6.35%	1.55										12	40.00%	9.74	16	45.71%	11.14
Environmental Scientist E2	22.41	0																	
Administrative Managers	37.76	1	0.23%	0.09															
Sr. Administrative Asst.	26.35	10	2.27%	0.60	2	4.35%	1.15				1	2.44%	0.64				1	2.86%	0.75
Administrative Assistant	21.44	0																	
Senior PM II	58.46	0																	
Senior PM I	39.22	0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
TOTALS		441	100%	\$41.01	46	100%	\$33.19	24	100%	\$33.38	41	100%	\$34.23	30	100%	\$30.36	35	100%	\$29.56

Average Hourly Project Rates

Route Ela Road at Long Grove Road
Section _____
County Lake
Job No. _____
PTB/Item _____

Consultant Huff & Huff, Inc.

Date 4/24/2015

Sheet 2 **OF** 3

Payroll Classification	Avg Hourly Rates	Section 4(f)			CSS			Public Meetings/Hearing			Water Quality			T&E Species/IHPA			Project 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	70.00	2	2.20%	1.54	2	3.39%	2.37				4	12.50%	8.75				1	12.50%	8.75
Senior Geotechnical Cons.	57.72																		
Senior Consultant	53.60	24	26.37%	14.13	40	67.80%	36.34	36	81.82%	43.85	2	6.25%	3.35	1	4.76%	2.55	6	75.00%	40.20
Senior Geologist PM	53.97																		
Senior Engineering PM	38.99																		
Senior Scientist PM	41.66																		
Senior Planning PM	44.09	60	65.93%	29.07															
Engineering PM	37.51																		
Geologist PM	38.98																		
Scientist PM II	33.38				4	6.78%	2.26							6	28.57%	9.54			
Scientist PM I	40.20																		
Asst. PM Engineer II	37.03										20	62.50%	23.14						
Asst. PM Engineer I	29.23																		
Asst. PM Planning	31.18													10	47.62%	14.85			
Sr. Technical Specialist	42.39	2	2.20%	0.93	6	10.17%	4.31	4	9.09%	3.85	2	6.25%	2.65	2	9.52%	4.04			
Sr. CADD Specialist	30.69	2	2.20%	0.67	6	10.17%	3.12	4	9.09%	2.79	2	6.25%	1.92						
Environmental Engineer	32.16																		
Environmental Scientist E1	24.36																		
Environmental Scientist E2	22.41																		
Administrative Managers	37.76																1	12.50%	4.72
Sr. Administrative Asst.	26.35	1	1.10%	0.29	1	1.69%	0.45				2	6.25%	1.65	2	9.52%	2.51			
Administrative Assistant	21.44																		
Senior PM II	58.46																		
Senior PM I	39.22																		
TOTALS		91	100%	\$46.64	59	100%	\$48.85	44	100%	\$50.49	32	100%	\$41.46	21	100%	\$33.48	8	100%	\$53.67

Average Hourly Project Rates

Route Ela Road at Long Grove Road
Section _____
County Lake
Job No. _____
PTB/Item _____

Consultant Huff & Huff, Inc.

Date 4/24/2015

Sheet 3 **OF** 3

Payroll Classification	Avg Hourly Rates	QA/QC																	
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	70.00	4	40.00%	28.00															
Senior Geotechnical Cons.	57.72																		
Senior Consultant	53.60	6	60.00%	32.16															
Senior Geologist PM	53.97																		
Senior Engineering PM	38.99																		
Senior Scientist PM	41.66																		
Senior Planning PM	44.09																		
Engineering PM	37.51																		
Geologist PM	38.98																		
Scientist PM II	33.38																		
Scientist PM I	40.20																		
Asst. PM Engineer II	37.03																		
Asst. PM Engineer I	29.23																		
Asst. PM Planning	31.18																		
Sr. Technical Specialist	42.39																		
Sr. CADD Specialist	30.69																		
Environmental Engineer	32.16																		
Environmental Scientist E1	24.36																		
Environmental Scientist E2	22.41																		
Administrative Managers	37.76																		
Sr. Administrative Asst.	26.35																		
Administrative Assistant	21.44																		
Senior PM II	58.46																		
Senior PM I	39.22																		
TOTALS		10	100%	\$60.16	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00



PTB NUMBER:

TODAY'S DATE: 4/23/2015

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

LEGEND

W.O. = Work Order

J.S. = Job Specific



313 Price Place, Suite 5
Madison, WI 53705
Office: 608.238.5000
Fax: 866.846.5552
www.mtjengineering.com

April 28, 2015

John A. Clark, P.E., LEED AP
Associate Engineering Director, Civil - Midwest Region
STV Incorporated
200 West Monroe Street, Suite 1650
Chicago, IL 60606-5015

Re: Barrington, IL / Lake Co., Ela & Long Grove Rds. Roundabout Design

John:

Per your request, we have revised the proposal scope and for expert roundabout application services to support the feasibility study of the intersection of *Ela and Long Grove Roads located in Lake County in the town of Barrington, IL.*

Please let us know if you have any questions.

Thank you,

A handwritten signature in dark ink, appearing to read "M.T. Johnson", followed by a horizontal line extending to the right.

Mark T. Johnson, P.E. (WI, CO, OR, MN, TX, ME, FL, AZ, IN, AR, GA, NE, OH, AB)
Principal Engineer
MTJ Engineering, LLC

PROJECT UNDERSTANDING

As part of the Phase I feasibility analysis of this intersection MTJ will provide the roundabout application analysis and concept/preliminary design for inclusion into the feasibility study of a roundabout. This work effort will include the roundabout operational analysis, design, public involvement assistance, review and technical assistance. Also included in this proposal are 2-D and 3-D visualization services for the roundabout alternative to support the public outreach component.

As part of the roundabout design alternative development we anticipate developing 2-3 "sketch" level design alternatives with differing circle placements and associated impacts for evaluation. 2-D colorized planning level graphics will be developed to provide a comparison of these sketch level alternative concepts with respect to meeting the project objectives, to include operational requirements and differing ROW impact opportunities.

It is anticipated that a preferred sketch level design will then be forwarded to a higher level of design refinement reflecting with a high level of certainty the expected horizontal impacts of the roundabout design. This "concept/preliminary" design will be used for feasibility in comparison to the signal alternatives. 3-D visual graphics will be produced for the roundabout alternative based on this design. It is also anticipated that this concept/preliminary design will incorporate interim and ultimate design provisions.

SCOPE OF WORK (TASKS)

TASK 1: EVALUATION AND REVIEW OF EXISTING ANALYSIS AND PROJECT OBJECTIVES

Review existing constraints and context to include:

- Existing roadway context
- Circulation, side street and residential driveway access requirements
- ROW, sensitive environmental areas and any major utilities
- Pedestrian and bicycle facilitation needs (Forest Preserve Ped and Bike access)
- Large truck and freight movement requirements (WB -67 anticipated design vehicle)
- Establish expected operational objectives for long-range traffic

TASK 2: OPERATIONAL ANALYSIS

MTJ will perform capacity analysis with the roundabout capacity analysis software program Rodel v1.88. This analysis will include the AM/PM peak hour analysis for the build-year (2017), long-range design year traffic flows (2040). MTJ will perform a sensitivity analysis utilizing Rodel's analysis tools to determine an expected break down year of a single-lane roundabout to determine and when two lanes may be necessary.

- Incorporate interim and ultimate design accommodations that allow for capacity expansion within original long-range design footprint.

Rodel's geometric capacity prediction methodology provides an excellent foundation from which to understand with a high level of certainty the expected operations, providing a level of confidence in the design decisions with respect to acceptable delay, queuing and ultimately feasibility.

Rodel's predictive capabilities have been field-verified on recent FHWA capacity data at roundabouts in the U.S. Rodel's capacity predictions output allows for a comparison to U.S. capacity data, providing a level of understanding and confidence not as easily obtained by other analysis programs. Additionally, Rodel includes the HCM 2010 Capacity Model that can be used for analysis if desired for comparisons.

TASK 3: HORIZONTAL DESIGN – SKETCH-LEVEL CONCEPT DESIGNS (2 or 3 alternatives)

MTJ will develop 2-3 sketch-level concept design recommendations taking into account known constraints and project objectives. These sketches will identify relative planning level differences between each alternative, including:

- Impacts to sensitive rights-of-way and/or other environmental constraints
- Provisions for existing residential drive access and circulation
- Overall geometry to include transitions to existing and proposed roadways and intersections
- Non-motorized pedestrian and bicycle design elements / access to Forest Preserve trail

TASK 4: HORIZONTAL DESIGN – PRELIMINARY DESIGN

Building upon decisions made in Task 3, MTJ will develop a survey-correct CAD horizontal geometry design in Microstation utilizing state-of-the-art design techniques to ensure a high level of confidence in decision making with respect to the feasibility of a roundabout at this location, to include:

- Operational objectives
 - Interim / Ultimate Design
- Optimal safety for all modes
 - Pedestrian Crossings (consistent with NCHRP 674, *Pedestrian Crossings Solutions at Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities*)
 - Speed control
 - Entry and View angles
 - Truck movements
 - Recommendations for splitter island lengths based on design speeds of approach roads
- Appropriate transitions to existing roadway cross sections to identify limits of construction and associated costs
 - Address access and turn-lane requirements of Fox Glove Lane
- Design parameters for use in IDS, to include:
 - Fast paths constructs
 - Truck templates
 - Capacity analysis

TASK 5: PUBLIC OUTREACH / VISUALIZATION

MTJ will assist project team in communicating engineering feasibility findings of the roundabout analysis and design. MTJ will also assist in general education about modern roundabout operations and reasons for their use. MTJ will develop 2-D and 3-D graphics to assist with visual communications and outreach/education efforts.

TASK 6: COMMUNICATIONS

6-A: Meetings and Correspondence – Online/Phone

MTJ will coordinate with project team and agency staff as necessary, including:

- Responses to inquiries
- Phone and email correspondence
 - Biweekly net-based meetings (MTJ subscribes to GoToMeeting)

6-B: Meetings in Barrington, IL – On-site

- 11 in-person meetings/presentations
 - 2 Public meetings
 - 3 SIG meetings
 - 2 Public meeting dry run
 - 3 SIG meeting dry run
 - 1 Alternative analysis meeting at LCDOT

TASK 7: WRITTEN SUMMARIES

MTJ will provide a summary of critical design elements and parameters for the roundabout, to include:

- Operational analysis summary
- Fast paths
- Design vehicle truck templates
- Pedestrian facilitation

PROPOSED FEE SCHEDULE – Included in IDOT documents.

PAYROLL ESCALATION TABLE **FIXED RAISES**

FIRM NAME MTJ Engineering, LLC
PRIME/SUPPLEMENT Prime

DATE 04/28/15
PTB NO. N/A

CONTRACT TERM 18 MONTHS
START DATE 5/15/2015
RAISE DATE 1/1/2016

OVERHEAD RATE 107.34%
COMPLEXITY FACTOR 0
% OF RAISE 3.00%

ESCALATION PER YEAR

5/15/2015 - 1/1/2016	1/2/2016 - 11/1/2016			
8	10			
18	18			
= 44.44%	57.22%			
= 1.0167				

The total escalation for this project would be: 1.67%

PAYROLL RATES

FIRM NAME
PRIME/SUPPLEMENT
PSB NO.

MTJ Engineering, LLC	DATE
Prime	
N/A	

04/28/15

ESCALATION FACTOR **1.67%**

[illegible]



**COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES**

FIRM
PSB
PRIME/SUPPLEMENT

MTJ Engineering, LLC
N/A
Prime

OVERHEAD RATE
COMPLEXITY FACTOR

$$\begin{array}{r} 1.0734 \\ \hline 0 \end{array}$$

DATE _____

[illegible]

DBE



AVERAGE HOURLY PROJECT RATES

FIRM MTJ Engineering, LLC
 PSB N/A
 PRIME/SUPPLEMENT Prime

DATE 04/28/15

SHEET 1 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Task 1 - Evaluate Project Obj			Task 2 - Operational Analysis			Task 3 - Horizontal Design: S			Task 4 - Horizontal Design:			Task 5 - Public Outreach 2-C		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Roundabout Designe	70.00	185	67.77%	47.44	1	100.00%	70.00	8	100.00%	70.00	24	50.00%	35.00	24	60.00%	42.00	8	14.29%	10.00
CAD Technician	49.82	40	14.65%	7.30							8	16.67%	8.30	8	20.00%	9.96	24	42.86%	21.35
Graphics Technician	25.42	48	17.58%	4.47							16	33.33%	8.47	8	20.00%	5.08	24	42.86%	10.89
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TOTALS		273	100%	\$59.20	1	100.00%	\$70.00	8	100%	\$70.00	48	100%	\$51.78	40	100%	\$57.05	56	100%	\$42.24



AVERAGE HOURLY PROJECT RATES

FIRM MTJ Engineering, LLC
 PSB N/A
 PRIME/SUPPLEMENT Prime

DATE 04/28/15

SHEET 2 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Task 6 - Bi-weekly Net Meeting			Task 7 - Five (5) On-Site Meetin			Task 8 - Five (5) On-Site Dry R			Task 9 - One (1) On-Site Altern			Task 10 - Written Summaries			Hours	% Part.	Wgtd Avg
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg			
Roundabout Designe	70.00	16	100.00%	70.00	40	100.00%	70.00	40	100.00%	70.00	8	100.00%	70.00	16	100.00%	70.00			
CAD Technician	49.82																		
Graphics Technician	25.42																		
TOTALS		16	100%	\$70.00	40	100%	\$70.00	40	100%	\$70.00	8	100%	\$70.00	16	100%	\$70.00	0	0%	\$0.00

Firm Name: MTJ Engineering, LLC

 LCDOT Section:
 PTB/Item No: 14-00144-20-CH

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
Per Diem	Up to State Rate Maximum			
Lodging (Overnight)	Up to State Rate Maximum			
Lodging (Extended)	Actual Cost (based on IDOT's and firm's policy)			
Air Fare Coach Rate (with two weeks' notice)	As Approved			
Vehicles:				
Mileage	Up to State Rate Maximum	Up to State Rate Max.	2,904	\$159.72
Daily Rate (owned or leased)	\$45/day	\$45/day		
Overtime	(Premium Portion)	Prem. Portion		
Tolls	Actual Cost	Actual Cost	N/A	\$110.00
Digital Photo Processing	Actual Cost	Actual Cost		
Photo Processing	Actual Cost	Actual Cost		
Cell Phones – (traffic systems, survey, phase III only)	\$70/month/phone (maximum) – Phase III (max. of three without IDOT approval)	Actual Cost		
Telephone Usage (traffic system monitoring)	Actual Cost	Actual Cost		
2-Way Radio (survey or phase III only)	Actual Cost	Actual Cost		
Overnight Delivery/Postage/Courier Service	Actual Cost	Actual Cost	N/A	
Copies of Deliverables/Mylars (in-house)	Actual Cost			
Copies of Deliverables/Mylars (outside)	Actual Cost	Actual Cost		
Specific Insurance (required for project)	Actual Cost	Actual Cost		
CADD	Actual Cost (max. \$15.00/hour)	Actual Cost		
Monuments (permanent)	Actual Cost			
Newspaper Advertisements	Actual Cost	Actual Cost	N/A	
Web Site	Actual Cost	Actual Cost	N/A	
Facility Rental for Public Meetings & Exhibits/Renderings & AV	Actual Cost	Actual Cost		
Transcriptions (specific to project)	Actual Cost	Actual Cost		
Recording Fees	Actual Cost	Actual Cost		
Courthouse Fees	Actual Cost	Actual Cost		
Testing of Soil Samples	Actual Cost	Actual Cost		
Lab Services	Actual Cost	Actual Cost		
Storm Sewer Cleaning and Televising	Actual Cost (requires 2-3 quotes)	Actual Cost		
Traffic Control and Protection	Actual Cost (requires 2-3 quotes)	Actual Cost		
Aerial Photography and Mapping	Actual Cost (requires 2-3 quotes)	Actual Cost		
Utility Exploratory Trenching	Actual Cost (requires 2-3 quotes)	Actual Cost		
Shift Differential	Actual Cost (based on firm's policy)	Actual Cost		
Project Site Travel	Actual Cost (based on IDOT's and firm's policy)	Actual Cost	N/A	
Equip. Rental Spec. for Proj. (snooper, lift, etc.)	Actual Cost (requires 2-3 quotes)	Actual Cost		
Specialized Equip. (as needed w/approval)	Actual Cost (requires 2-3 quotes)	Actual Cost		
Railroad Flagmen	Actual Cost	Actual Cost		
Printing Brochures for Public Meeting	Actual Cost	Actual Cost	N/A	
Public Meeting Informational Display Signs	Actual Cost	Actual Cost	N/A	

Item	Allowable	Contract (1) Rate	Quantity (n/a for work orders)	Total
Large Format Color Printing	Actual Cost	\$1.50/SF	N/A	
Full Size Plots on Bond	Actual Cost	\$0.25/SF	N/A	
Xerox Black and White Copies	Actual Cost	\$0.10/EA	N/A	\$150.00
Post Card Printing for Public Meeting	Actual Cost	Actual Cost	N/A	
Color Copies	Actual Cost	\$0.75/EA	N/A	
TOTAL				\$419.72

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



WISCONSIN DEPARTMENT OF TRANSPORTATION

DIVISION OF TRANSPORTATION INVESTMENT MANAGEMENT

BUREAU OF STATE HIGHWAY PROGRAMS

MEMORANDUM

TO: MARK T JOHNSON
FROM: MARY K. BRAAKSMA, AUDIT SUPERVISOR
SUBJECT: CFR ACCEPTANCE
DATE: AUGUST 15, 2014
CC: AUDIT FILES

We have received the MTJ Engineering, LLC Consultant Financial Report for the year-ended December 31, 2013. Based on a cursory review, your Consultant Financial Report has met the requirements of our Facilities Development Manual 8-5-47.

The indirect cost rate of 107.34% is the approved **provisional maximum rate to be used for estimating and invoicing costs** on WisDOT contracts.

This approval is a provisional approval of your overhead rate. Under WisDOT policy, the rate and information submitted in the Consultant Financial Report are subject to audit and/or adjustment. Actual cost projects (cost plus fixed fee) are also subject to audit and/or adjustment with the invoiced overhead rate(s) adjusted to the accepted overhead rate(s) for the applicable period. This may result in **money owed to WisDOT** or to the consultant, not to exceed contract maximums.

Costs included in the direct cost list submitted with the Consultant Financial Report are approved to be charged directly to WisDOT projects at actual cost. No markup is allowable per Federal Acquisition Regulations, Part 31.202.

Our limited acceptance of your Consultant Financial Report is not based on an audit and does not constitute "establishment of a rate by a cognizant agency" for the purposes of applying the rules published in 23 C.F.R. §172.7. Audits are performed at the discretion of WisDOT.

If you have any questions, feel free to call me at (608) 261-6270 or via email at mary.braaksma@dot.wi.gov

Mary K. Braaksma
Audit Supervisor
Wisconsin Department of Transportation

Proposal No. 3432R2
April 28, 2014

Mr. John Clark
STV, Inc.
200 West Monroe St., Suite 1650
Chicago, IL 60606

PROPOSAL
Geotechnical Investigation Services
Intersection Improvements
Ela Road & Long Grove Road
Barrington, Lake County, Illinois

Dear Mr. Clark:

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

Proposed Scope of Work

Our scope of work includes locating and drilling thirty-six (36) roadway soil borings. The roadway borings will be drilled to a depth of 7.5 to 10.0 feet each from the existing ground/pavement surface, based on the existing ground elevation and proposed design grades. The roadway borings will be spaced approximately 150 feet apart and staggered, in general accordance with the IDOT Geotechnical Manual guidelines. The borings will be primarily drilled in the shoulder areas of Ela Road and Long Grove Road. In addition to the soil borings, a total of 4 pavement cores will be obtained to provide a photo log.

The location of the borings will be finalized upon consultation with the client. The location of the borings will be adjusted based on field conditions, accessibility and utility conflicts. We do not anticipate closing of lanes during drilling. The borings will be drilled in the existing shoulder areas or within the embankment adjacent to the roadways. Traffic control signage and flaggers

will be utilized as needed during drilling to ensure safety of drilling crew and traffic.

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. Where required, the surface will be patched with asphalt to match surrounding elevations.

All field sampling and laboratory testing will be performed in general accordance with IDOT specifications. Laboratory testing includes moisture content tests, unconfined compressive strength tests using a pocket penetrometer on all recovered soil samples. Standard Proctor tests, Illinois Bearing Ratio tests will be performed on bulk samples recovered from the proposed roadway areas. The final geotechnical report will be in general accordance with the IDOT Geotechnical Manual guidelines.

Environmental Screening

Soil Samples will be screened in the field using a Photoionization Detector (PID) unit to identify potential contamination. The information will be included in the report.

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.

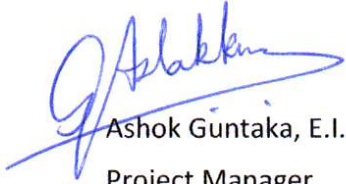
Schedule

The fieldwork could be started within a few days of receiving authorization to proceed. We anticipate the fieldwork to be completed in three days. The final geotechnical report will be issued within four weeks of completion of field work.

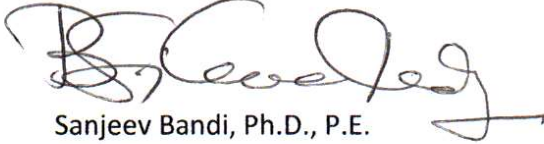
INTERRA very much appreciates the opportunity to submit this proposal. Should you at any time require any additional information or clarifications, please do not hesitate to call us.

Very truly yours,

Interra, Inc.



Ashok Guntaka, E.I.
Project Manager



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



Payroll Escalation Table
Fixed Raises

FIRM NAME Interra, Inc.
PRIME/SUPPLEMENT STV

DATE 04/28/15
PTB NO. Ela Road

CONTRACT TERM 4 MONTHS
START DATE 5/15/2015
RAISE DATE 1/1/2016

OVERHEAD RATE 144.08%
COMPLEXITY FACTOR 0
% OF RAISE 3.00%

ESCALATION PER YEAR

5/15/2015 - 9/14/2015

1/1/2016 - 12/31/2016

1/1/2017 - 12/31/2017

12/31/2018

4
4

0
4

0
4

0
4

= 100.00%
= 1.0000

0.00%

0.00%

The total escalation for this project would be:

0.00%



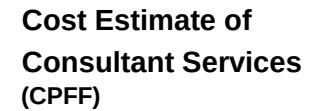
Payroll Rates

FIRM NAME	Interra, Inc.
PRIME/SUPPLEMENT	STV
PTB NO.	Ela Road

DATE 04/28/15

ESCALATION FACTOR **0.00%**

[illegible]



Date	04/28/15
Overhead Rate	144.08%
Complexity Factor	0

DBE 100.00%

Average Hourly Project Rates

Route Ela Road and Long Grove Road, Barrington, IL

Section _____

County Lake County

Job No. _____

PTB/Item Ela Road

Consultant Interra, Inc.

Date 04/28/15

Sheet 1 OF 1

Payroll Classification	Avg Hourly Rates	Total Project Rates			Project Management			Field Engineering			Geotechnical Report								
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Project Manager	54.18	6	5.77%	3.13	6	100.00%	54.18												
Field Engineer	27.69	40	38.46%	10.65				40	90.91%	25.17									
Geotechnical Engineer	70.00	6	5.77%	4.04							6	11.11%	7.78						
Staff Engineer	27.69	28	26.92%	7.46							28	51.85%	14.36						
CAD Operator	40.00	12	11.54%	4.62							12	22.22%	8.89						
Project Engineer	42.31	12	11.54%	4.88				4	9.09%	3.85	8	14.81%	6.27						
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TOTALS		104	100%	\$34.77	6	100%	\$54.18	44	100%	\$29.02	54	100%	\$37.29	0	0%	\$0.00	0	0%	\$0.00



Direct Costs Check Sheet

PTB/Item No:

Ela Road

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.)

[illegible]

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

ESTIMATE

ESTIMATE #: 133734
DATE: 4/24/2015



BILL TO: STV Incorporated
200 W. Monroe, Ste 1650
Chicago, IL 60606
3125538454

ORDER NO	ORDER DATE	PROJECT NO	PAYMENT TERMS	ORDER BY
133734	4/24/2015	Ela Rd Barrington	Due on receipt	Sanjay Joshi

QTY	DESCRIPTION	DATE	RATE	TOTAL
2	1-Person Turning Movement Count 1 Location(s) for time period(s): 6:00 AM - 12:00 PM (Mid), 12:00 PM - 6:00 PM (Mid) - Ela Rd -- Long Grove Rd, Deer Park, IL		\$370.00	\$740.00
2	1-Person Turning Movement Count 1 Location(s) for time period(s): 6:00 AM - 9:00 AM (Mid), 3:00 PM - 6:00 PM (Mid) - Ela Rd -- Main St, Deer Park, IL		\$185.00	\$370.00
6	Bi-Direction 2 lane roadway Tube Count 6 Location(s) for 1 Day(s) (Volume) - Ela Rd south of Main St, Deer Park, IL - Ela Rd north of Main St, Deer Park, IL - Main St west of Ela Rd, Deer Park, IL - Main St east of Ela Rd, Deer Park, IL - Ela Rd north of Long Grove Dr, Deer Park, IL - Long Grove Dr east of Ela Rd, Deer Park, IL		\$135.00	\$810.00
1	Tube Setup Fee - Project Hours		\$200.00	\$200.00
TOTAL				\$2,120.00
BALANCE DUE				\$2,120.00

Quality Counts, LLC
7409 SW Tech Center Dr, STE 150
Tigard, OR 97223
(877) 580-2212
(503) 620-4545 (fax)
qualitycounts.net

DESIGN SURVEY PROCEDURES (Revised 12/4/14)

HORIZONTAL ALIGNMENT

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

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

The CONSULTANT will mark all 100-foot interval station locations on the survey base line for construction when on paved surfaces with a P.K. or Mag nail and spray paint. The baseline for relocated alignments when off pavement will be marked at the PCs, PTs, and POTs with iron rods. The rods shall be set one foot below the surface in farmed land. The CONSULTANT will advise the County of any pavement alignment variations. In cases where the proposed centerline of construction or survey baseline is different from the existing centerline of R.O.W., both shall be shown and the relationship between them shall be indicated on an Alignment & Tie sheet.

ALIGNMENT & TIE SHEET

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

VERTICAL ALIGNMENT

The North American Vertical Datum of 1988 (NAVD 88) shall be used for vertical control. Lake County Mapping Benchmarks are available on-line (<http://gis.lakeco.org/maps/>). NAVD88 benchmarks are available on-line from the National Geodetic Survey. LCDOT's Land Surveyor may also be contacted for benchmarks that may be in the area. The primary benchmarks and site benchmarks shall be listed and described on the Alignment & Tie Sheet. The location of the site

benchmarks shall also be shown on the plan sheets with a symbol. Site benchmarks are to be located at less than 1000-foot intervals with a minimum of two (2) on each project.

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

TOPOGRAPHY

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

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

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

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

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

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

RAILROAD INSURANCE

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

survey operations, and any other requirements of the railroad. The CONSULTANT is responsible for all of the foregoing requirements.

DELIVERABLES

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

LAKE COUNTY PLAT OF HIGHWAYS CHECKLIST

Plats of Highways shall have the following elements:

- Title, Route, Construction Section, and County
- North arrow
- Written and graphic scale shown in feet
- Basis of bearings
- Section, Township, Range at the top of the sheet
- Land lines (i.e. section lines, subdivisions). Use correct line types.
- Label all subdivisions (including the recording date and document number), blocks, and lots.
- If R.O.W. is to be acquired from property in a recorded subdivision, any easement or setback lines shown on the recorded plat are to be shown that affect the subject parcel.
- Show document numbers and recording dates for previously dedicated or acquired R.O.W.
- Indicate and label the existing right-of-way line. Use the proper line type.
- Indicate and label the proposed right-of-way line. Use the proper line type.
- Owner's boundary is to be shown by a solid line and labeled with the Property Line Symbol.
- Use land hooks to show common lines of ownership.
- Show all Fee Takes, Permanent Easements, and Temporary Easements.
- Parcel numbers for parcels to be acquired are to be shown as 3 digits. Use the suffix PE for Permanent Easements or TE for Temporary Easements.
- Dimension the takes and easements. Show distances and bearings as used in the legal descriptions.
- All buildings on the total holding should be shown.
- All buildings within 100 feet of the proposed right-of-way should be dimensioned and tied to the proposed right-of-way.
- All buildings beyond 100 feet from the proposed right-of-way should just be outlined on the plat.
- Show and label existing improvements within proposed right-of-way.
- Label the P.O.C. and the P.O.B. for all parcels to be acquired.
- Total holding should be shown and be identical to the title report.
- Complete the Parcel Table:

Owner's Name
Permanent Index Number
Total Holding Area
Area Taken
Area Previously Used or Dedicated
Remainder
Easement Area
Purpose of Easement
Acquired By

- Show all areas to the nearest 0.001 Acre. All areas less than 0.010 acres should be also shown in square feet.
- The survey line and/or the centerline are to be shown. The existing centerline of right-of-way and the proposed centerline, if different, should be shown and the relationship between them indicated.
- Show bearings on the centerline.
- Label the stationing of the centerline or survey line including all station equations and curve data.
- Label the station and offset at the intersecting property lines with the proposed right-of-way line and at changes in width of the right-of-way.
- Show all found and set monumentation.
- All U.S. Public Land Survey Monuments found or restored and are tied to the Points of Beginning must be shown and recorded in accordance with 765 ILCS 220/9.
- Show the company's name above the project title box.
- Complete the project title box in the lower right-hand corner.
- Surveyor's Certificate.
- County Engineer Certificate.

PLAT OF HIGHWAYS ALIGNMENT & TIE SHEET

An Alignment & Tie Sheet shall be provided as part of the Plat of Highways. The Plat of Highways is to be prepared using English units of measure and the U.S. Survey Foot. The station, offset, and coordinates of the alignment points (PCs, PTs, PIs, and POTs) shall be shown. It shall be noted whether the coordinates, stationing, and distances shown are state plane grid or ground surface. If the project has been scaled to ground distances and coordinates from state plane grid, the coordinates shall be truncated so that they do not appear to be state plane coordinates. In addition, the drawing shall be scaled about a point of origin of (x,y) = (0,0). In either case, Illinois State Plane coordinates must be provided for all alignment points so that they can be easily located. The state plane coordinates may be shown in a separate table. Metadata shall be provided indicating Illinois State Plane–East Zone, NAD83(adjustment?) and the average grid (combination factor) for the project.

Three lateral survey ties are needed for all centerline control points (PCs, PTs, and PIs) and proposed right-of-way monuments. All ties should be outside of the proposed right-of-way.

LCDOT's Land Surveyor:

Steve Heuer, PLS
600 West Winchester Road
Libertyville, IL 60048
(847) 377-7488