| Municipality | LOCAL AGENCY | Illinois Department of Transportation | CONSULTANT | Name |
|---|---|---|---|---|
| | | | | Civiltech Engineering, Inc. |
| Township | | | | Address |
| | | | | 450 East Devon Avenue, Suite 300 |
| County<br>Lake County – Division of Transportation | | **Preliminary Engineering Services Agreement For Motor Fuel Tax Funds** | | City<br>Itasca |
| Section<br>08-00113-16-BR | | | | State<br>Illinois |

THIS AGREEMENT is made and entered into this _____ day of _____, 2011 between the above Local Agency (LA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the improvement of the above SECTION. Motor Fuel Tax Funds, allotted to the LA by the State of Illinois under the general supervision of the State Department of Transportation, hereinafter called the "DEPARTMENT", will be used entirely or in part to finance ENGINEERING services as described under AGREEMENT PROVISIONS.

## Section Description

Name IL Route 176/Fairfield Road Intersection Improvement

Route Fairfield Road Length _____ Mi. _____ FT (Structure No. _____)

Termini @ IL Route 176

Description: Phase II engineering services for the Fairfield Road at IL Route 176 project, including roadway, drainage, retaining wall, underpass, bridge, and traffic signal design, preparation of contract documents, special provisions, and cost estimates. Services will also include ROW acquisition, supplemental survey, environmental and geotechnical studies.

## 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 Watershed Development Permit, Department of Natural Resources-Office of Water Resources Permit, Bridge waterway sketch, and/or Channel Change sketch, Utility plan and locations, and Railroad Crossing work agreements.
   - f. ☒ Prepare Preliminary Bridge design and Hydraulic Report, (including economic analysis of bridge or culvert types) and high water effects on roadway overflows and bridge approaches.
   - g. ☒ Make complete general and detailed plans, special provisions, proposals and estimates of cost and furnish the LA with one (1) copy of each document in both hardcopy and electronic format. Additional copies of any or all documents, if required, shall be furnished to the LA by the ENGINEER at his actual cost for reproduction.
   - h. ☒ Furnish the LA with survey and drafts in duplicate of all necessary right-of-way dedications, construction easement and borrow pit and channel change agreements including prints of the corresponding plats and staking as required.
   - i. ☐ Assist the LA in the tabulation and interpretation of the contractors' proposals

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

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

l. ☒ Perform work in accordance with the Scope of Services outlined in Attachments A through G.

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 and 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 he will perform such work without expense to the LA, even though final payment has been received by him. He 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 him and will show his professional seal where such is required by law.

**The LA Agrees,**

1. To pay the ENGINEER as compensation for all services performed as stipulated in paragraphs 1a, 1c, 1e, 1f, 1g, 1h, 1l, 2, 3, 5 and 6 in accordance with one of the following methods indicated by a check mark:

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

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

Schedule for Percentages Based on Awarded Contract Cost

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

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

c. ☒ Cost Plus to a Maximum _____ CPM = [DL x Multiplier] + IHDC

_____

Where: DL = Direct Labor
IHDC = In House Direct Costs
Multiplier = (Overhead + Profit) = 2.93

**The Total Not-to-Exceed Contract Amount shall be $1,588,144.00**

2. To pay for services stipulated in paragraphs 1a, 1c, 1e, 1f, 1g, 1h, 1l of the ENGINEER AGREES at actual cost of performing such work plus performing such work plus 188.00 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, subconsultants, and other out-of-pocket expenses will be reimbursed to the ENGINEER at his actual cost. Subject to the approval of the LA, the ENGINEER may sublet all or part of the services provided under the paragraph 1a, 1c, 1d, 1g, 1h, 1i, 1j, 1k, and 1l. ~~If the ENGINEER sublets all or part of this work, the LA will pay the cost to the ENGINEER plus a five (5) percent service charge.~~

   "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.

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

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

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

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

4. That, should the improvement be abandoned at any time after the ENGINEER has performed any part of the services provided for in paragraphs 1a, through 1l and prior to the completion of such services, the LA shall reimburse the ENGINEER for his actual costs plus 193.00 percent incurred up to the time he 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 190.00 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 his 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 his 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 he/she 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 he/she 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 quintuplicate counterparts, each of which shall be considered as an original by their duly authorized officers.

Executed by the LA:

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

ATTEST:

By _____

Lake County Clerk

(Seal)

State of Illinois, acting by and through its

County Board

By _____

Title Chairman of the County Board

RECOMMENDED FOR EXECUTION

_____

Martin G. Buehler, P.E.
Director of Transportation/County Engineer
Lake County

Executed by the ENGINEER:

Civiltech Engineering, inc.
Engineering Firm
450 East Devon Avenue, Suite 300
Street Address
Itasca, Illinois 60143
City, State

ATTEST:

By _____

Title President

By _____

Title Assistant Secretary

## ATTACHMENT A

## Scope of Services, Cost Estimate of Consultant Services, Workhour Estimate and Detailed Direct Costs

**EXHIBIT A-1**
**PHASE II SCOPE OF ENGINEERING SERVICES**

**Fairfield Road and IL 176**
**Intersection Improvements**

**Lake County Division of Transportation**
**February 16, 2011**

## I. PROJECT UNDERSTANDING AND APPROACH

This project includes improvements to the intersection of Fairfield Road and IL Route 176. The intersection is located in unincorporated Lake County, east of the Village of Wauconda, bounded by the Lakewood Forest Preserve of the Lake County Forest Preserve District (LCFPD).

The Phase I design of the project is currently on-going. At this time there are two alternates for the improvements to the intersection. The first alternate includes widening of the at-grade intersection of Fairfield Road and IL Route 176. Two through lanes, single left and single right turn lanes will be provided in each direction. A new traffic signal at the intersection will be required.

The second alternate includes the construction of a grade separation at the intersection. A new overpass will be designed to carry Fairfield Road over IL Route 176 and a connector road will be constructed in the northwest quadrant of the intersection to connect the two roads. New traffic signals will be installed at the intersection of the connector road / Fairfield Road and at the connector road / IL Route 176.

In both alternates the existing bike path crossing of Fairfield Road on the north side of the intersection will be eliminated. New underpasses will be constructed east and west of the intersection, which will allow pedestrians to cross Fairfield Road using the existing underpass south of IL Route 176. Extensive path construction will be required to make these new connections. Based on a concept drawings provided by the Forest Preserve, a prefabricated bridge may be required between Banana Lake and Taylor Lake. For purposes of this proposal, we have assume that the bridge will be a prefabricated, steel truss style pedestrian bridge.

Because of the location of this intersection within the Lakewood Forest Preserve, street lighting is not anticipated. However, based on recent experience with LCFPD underpasses, lighting of the two new underpasses will be required.

The proposed improvement will require the acquisition of permanent right-of-way and temporary easements. At this time, five parcels are anticipated that include both permanent right-of-way and temporary easements. This project will include the preparation of the necessary Plat of Highways, appraisals, and negotiations necessary

to acquire the right-of-way.

Maintenance of traffic will be a key element of the proposed design. With the at-grade intersection improvement, it is anticipated that all traffic movements can be maintained through the use of temporary pavement. The bikepath underpasses will also be stage constructed maintaining two-way traffic. With the grade separation alternate, IL Route 176 will be stage constructed. The connector road will be constructed early in the project to allow Fairfield Road north of the intersection to remain open. Because of the overpass construction, a detour route will be required for Fairfield Road south of IL Route 176.

Based on a review of the floodplain mapping, there is an area of potential work within the floodplain on the north end of Fairfield Road, on the east side. The impacts will be minimized by the installation of a proposed retaining wall and there is no anticipated change in the proposed water surface elevation. Any proposed filling of the floodplain will be offset by an equal amount of excavation adjacent to the floodplain.

The construction of this project is being funded locally by Lake County. The project will be let by Lake County, however since a state route is involved IDOT approval will be required. Because of the amount of work on the state's route, we will meet with IDOT early in the project to determine if this project should be processed as a permit project or directly through the Bureau of Local Roads and Streets. Extensive coordination with the LCFPD will also be required due to the construction of the bike path and realignment of the entrance to the forest preserve facilities on the south side of IL Route 176 west of Fairfield Road.

**Because the preferred alternate for the intersection improvements has not been selected, we have prepared this proposal assuming that the at-grade alternate will be designed. We have also provided the scope, manhours, and fee for those items of work that will need to be added if the grade separation alternate is chosen.**

## II. SCOPE OF SERVICES

All work will be performed in accordance with the Lake County Division of Transportation standards and guidelines and the Illinois Department of Transportation Bureau of Design and Environment (BDE) Manual. All work outside of the existing and proposed right-of-way will be performed in accordance with the Lake County Forest Preserve District standards and guidelines. In addition, all permitting will follow the requirements set forth by the Lake County Stormwater Management Commission, Illinois Environmental Protection Agency, and the United States Army Corps of Engineers.

## 1. Data Collection and Early Coordination

**A. Initial Meeting with County and Forest Preserve** - We will hold a joint meeting with the Lake County Division of Transportation and Lake County Forest Preserve to discuss the Phase I work performed to date, project requirements, schedule, and coordination with IDOT and any others involved with the project.

**B. Obtain/Update and Review Record Data** - The Phase II Engineers will review the Phase I project information in detail to ensure that the design of the proposed improvements is in accordance with the report. Furthermore, the report will be reviewed to ensure that any commitments made during the Phase I preliminary engineering stage of the project are followed through during Phase II design engineering. We will obtain and review available County data including, but not limited to, subdivision plans and plats, existing/proposed record drawings, geotechnical reports, right-of-way data, aerial photography and contour mapping, other existing plans, and utility atlases.

**C. Preliminary Utility Company Coordination** - We will send letters to the utility companies within the project limits requesting copies of their utility atlases in order to confirm or update the information obtained during Phase I. The information collected will be incorporated into the project base drawing.

**D. Supplemental Topographic Survey -** This item includes obtaining additional survey at locations where the original survey did not cover what is anticipated to be part of the Phase II engineering work.

One of the requirements of the Lake County Forest Preserve District is that they lay out the proposed alignment of the bikepath in the field so that it can be walked by their staff. They will then make adjustments to the alignment based on field conditions. Once the path alignment is approved, we will have a 100 foot wide corridor along the alignment surveyed. This includes surveying all trees within this corridor.

Jorgensen and Associates provided the original survey. They will gather this supplemental survey information as a subconsultant to Civiltech. We have included manhours to field walk the alignment with the LCFPD and to coordinate the supplemental survey with Jorgensen and Associates. A copy of Jorgensen's proposal is included in Attachment B.

**E. Geotechnical Studies** – The Phase I agreement included fee to prepare a geotechnical report for the project. Since this work has not been performed to date, we propose to include this work in the Phase II project. We propose to use Midland Standard Engineering & Testing, Inc. as a subconsultant to perform the pavement coring, highway soils survey, and structural borings for this project. Recommendations will be developed for the pavement structure in the design year (based upon a 20-year design life). This item will include an

initial meeting with the County to discuss locations of the proposed pavement cores and borings. We have included manhours for coordination between Civiltech and Midland and to attend the meeting with the County. A copy of Midland's proposal is included in Attachment C.

**F. Tree Survey** – The Phase I agreement originally included fee for a tree survey to be performed by Entrix Environmental Associates. Since this work has not been performed to date, we propose to include it in the Phase II project. The limits of the tree survey will include a 100 foot wide corridor along the proposed bike path alignment, as requested by the Lake County Forest Preserve District. This work will be performed by Cardno ENTRIX (formerly Entrix Environmental Associates). A copy of their proposal is included in Attachment D. We have included manhours for coordination between Civiltech and Cardno ENTRIX.

**G. Field Review of Survey** – This item includes review of the existing topographic survey and performing a "plan-in-hand" field check of the project site to verify the completeness and accuracy of the survey. We will also photo document the site and prepare a detailed inventory of existing signage and any other topographic features which may impact or be impacted by the proposed design. At this time we will also establish as accurately as possible, the locations of existing private utilities in the field using a combination of the atlases obtained during our Preliminary Utility Company Coordination and visual observation in the field.

**H. IDOT Project Kick-off Meeting** - Once we have had the initial meeting with the County and a project schedule has been set, we will conduct a joint meeting with the Illinois Department of Transportation to discuss the project, further define IDOT's processing requirements (either as a permit project or directly through the Bureau of Local Roads and Streets), and gain everyone's acceptance of the project schedule and commitment to timely reviews.

## 2. Preliminary (65%) Engineering

**A. Plan Base Sheet Preparation-** We will plot existing topographic aerial/survey information and develop plan base sheets at a scale of 1" = 20' and 1"=50' for use in the development of contract plans. Any updated existing utility information that has been obtained during the data collection phase and survey phase will also be plotted on the base sheets.

**B. Review and Confirm Project Right-of-Way Requirements** - We will review the proposed roadway alignment and horizontal and vertical geometrics with respect to the existing right-of-way. Additionally, the preliminary cross sections will be analyzed in detail by the Phase II design team in order to confirm the proposed right-of-way required. This work will be performed early in the design phase so that the right-of-way acquisition

process can begin as soon as possible to ensure that the project remains on schedule.

**C. Pavement Design** - We will complete a pavement design for Fairfield Road and IL 176. This work will be in accordance with the geotechnical report, County requirements, and the IDOT BDE Manual.

**D. Drainage Design** – All drainage calculations will be completed in accordance with the Lake County Stormwater Management Commission's requirements. We will determine existing and proposed runoff coefficients, quantify floodplain encroachments, identify right-of-way requirements for ditches, drainage outlets and detention facilities, and complete inlet spacing and storm sewer design calculations to develop a proposed drainage design.

IDOT will likely require submittal of an Existing Drainage Plan and a Proposed Drainage Plan for IL Route 176, however a full Location Drainage Study is not anticipated. We have included manhours to prepare these exhibits and attend 2 meetings with IDOT.

Once we have completed the preliminary design of the geometrics and drainage, we will conduct a joint meeting with LCSMC and LCDOT to discuss the project and further define the permit requirements.

**E. Lighting Design** – Lighting of the roadway and intersection is not anticipated based on the location of the project within a forest preserve. However, based on recent experiences, lighting of the underpasses will be required. We will prepare lighting calculations for the underpass that meet IES standards. We will also attend one meeting with IDOT's Bureau of Electric if necessary.

**F. Maintenance of Traffic Concept -** We envision the construction staging and maintenance of traffic as a critical component to be addressed and resolved as part of the preliminary engineering. Construction staging, maintenance of traffic concepts and detour routes will be agreed to prior to the pre-final plan development.

**G. Type, Size and Location (TS&L) for Underpass No. 1** – This structure will require a TS&L for review by the Bridge Office. The TS&L will show a plan view, elevation view and cross section of the proposed structures and will describe the proposed structure type and foundation treatments. Structure types and sizes will be developed based geometric needs, geotechnical investigations, aesthetic considerations and economics.

**H. Type, Size and Location (TS&L) for Underpass No. 2** – Similar to Underpass No. 1, this structure will require a TS&L.

**I. Type, Size and Location (TS&L) for Prefabricated Pedestrian Bridge** - This structure will require a TS&L. The TS&L will show a plan view, elevation view and cross section of the proposed structures and will describe the proposed structure type and foundation treatments.

**J. Preliminary Plans (65%)** - We will prepare preliminary plans containing the following drawings:

- Cover Sheet and Index of Sheets (1 sheet)
- General Notes and List of State and Local Standards (2 sheets)
- Existing Typical Sections (3 sheets)
- Proposed Typical Sections (5 sheets)
- Erosion Control and Landscaping - 3 stages 1"=50' (12 sheets)
- Roadway Plan and Profile 1"=20' (17 sheets)
- Bikepath Plan and Profile 1"=50' (9 sheets)
- Lakewood Entrance Reconfiguration Plan and Profile 1"=20' (2 sheets)
- Drainage and Utilities 1"=20' (17 sheets)
- Lakewood Entrance Reconfiguration Drainage and Utilities 1"=20' (2 sheets)
- Detention Basin Plan (4 sheets) 1"=50'
- Pavement Marking Plan 1"=50' (4 sheets)
- Signing Plan 1"=50' (4 sheets)
- Roadway Cross Sections (63 sheets)
- Bikepath Cross Sections (31 sheets)

The Preliminary Plan preparation and submittal will serve as a progress submittal for review by the County and Forest Preserve staff, in an effort to identify and address any significant design issues prior to completing pre-final plans. We will communicate with the County and Forest Preserve throughout the design process to resolve any current design issues.

The preliminary concept drawings show replacement of the bike path on the strip of land between Taylor Lake and Banana Lake. A mark-up from the LCFPD indicates the installation of a bridge across this area. Since the type of crossing has not been finalized we have not included the manhours to design a bridge crossing at this location.

Additionally, a concept drawing from the LCFPD shows the re-alignment of the entrance to the forest preserve on the south side of IL Route 176, west of Fairfield Road. The drawing also shows the installation of a new pond and waterfall at this location that are to be completed by the Forest Preserve as part of their Master Plan update. The scope of this proposal only includes the reconstruction of the driveway to the existing intersection 550' south of IL Route 176 and reconstruction of the east-west access roads 100' to the west and 300' to the east.

In an effort to alert the various utility companies of possible conflicts and to

advise them of the overall project schedule, we will submit a utility plan set for their review. It is our intention that this submittal will allow the utility companies to review the plans to determine where additional information is needed concerning the location of their facilities. Utility plan submittals will be coordinated with Lake County's Utility Coordinator for their records.

**K. Preliminary Design Review Meeting** - We will coordinate a meeting in order to discuss the status of the project with the County and Forest Preserve. The meeting will be scheduled such that all parties will have had an opportunity to review the preliminary plans and provide comments.

**L. Preliminary Soils Design Review Meeting** - We will coordinate a meeting to discuss the status of the project's soil report with the County. We will be prepared to discuss subsurface soils conditions, geotechnical conclusions, recommendations for the foundation methods, pavement design, and the presence of unsuitable soils and their remediation.

**M. Lake County Forest Preserve Coordination** – It is our understanding that the Lake County Forest Preserve will be updating their master plan for the Lakewood Forest Preserve while the Phase II engineering is in progress. The results of the master plan update may impact the design of the improvements. We will coordinate with the Forest Preserve to ensure that the design is consistent with the revised master plan. If significant revisions to the plans are required based on the revised master plan, a supplement to the engineering agreement will be prepared for approval by the County prior to revising the plans.

**N. Aesthetic Features Coordination Meeting and Conceptual Design** - We will coordinate a meeting to discuss the proposed aesthetic features for the proposed underpasses and retaining walls with the County and LCFPD.

**3. Right-of-Way Documents and Coordination** - There are five parcels with right-of-way takes and temporary easements within the project limits. Four of the parcels are owned by the Lake County Forest Preserve District and one is owned by the Chicago Archdiocese (cemetery). We have assumed appraisals, review appraisals, and negotiations will be required for all five parcels.

**A. Subconsultant Coordination** - The preparation of the Plat of Highways and Legal Descriptions will be performed by Jorgensen & Associates, Inc. in accordance with the IDOT Plats of Highway Checklist (a copy of their proposal is included in Attachment E). We will provide Jorgensen & Associates electronic copies of the proposed alignment and right-of-way for use in preparing the Plat of Highways and tying down the centerline alignment. Civiltech will provide the necessary valuation services. We propose to use T Engineering Services Ltd. for review appraisals (a copy of their proposal is included in Attachment F) and to use Santacruz Associates Ltd. as the

negotiator for the land acquisition (a copy of their proposal is included in Attachment G). All such services shall be performed in accordance with the policies of the County, and where applicable, the Illinois Department of Transportation Land Acquisition Policies and Procedures Manual and the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act.

This item includes work involved with coordination between the Phase II design team and the appraisers and negotiators. This work typically includes providing the appraisers and negotiators with exhibits for use during meetings with the property owner, and providing information regarding the design and potential modifications to the same.

**B. Right-of-Way Coordination Meeting** - We will arrange and attend two meetings with the County to discuss the proposed right-of-way acquisition.

## 4. Pre-Final (90%) Plans, Special Provisions and Estimates

**A. Pre-Final Plans** - The development of Pre-Final Contract Plans and documents will proceed throughout the County's and Forest Preserve's review of the Preliminary Plan Submittal. We will prepare pre-final contract plans based on comments received on the preliminary plans and in accordance with the approved Phase I Report, the applicable sections of the BDE manual, applicable IDOT Standards and in accordance with current County standards and practices. We anticipate that the contract plans will contain the following drawings:

- Cover Sheet and Index of Sheets (1 sheet)
- General Notes (2 sheet)
- Summary of Quantities (6 sheets)
- Schedule of Quantities (20 sheets)
- Alignment, Ties and Benchmarks (8 sheets) 1"=50'
- Existing Typical Sections (3 sheets)
- Proposed Typical Sections (5 sheets)
- Erosion Control and Landscaping – 3 stages, 1"=50' (12 sheets)
- Lakewood Forest Preserve Reforestation Plan 1"=50' (2 sheets)
- Stages of Construction – sequences and typical sections (2 sheets)
- Stages of Construction – 3 stages, 1"=50' (12 sheets)
- Roadway Plan and Profile 1"=20' (17 sheets)
- Bikepath Plan and Profile 1"=50' (9 sheets)
- Lakewood Entrance Reconfiguration Plan and Profile 1"=20' (2 sheets)
- Drainage and Utilities 1"=20' (17 sheets)
- Lakewood Entrance Reconfiguration Drainage and Utilities 1"=20' (2 sheets)
- Detention Basin Grading Plan and Details 1"=50' (4 sheets)
- Detention Basin Planting Plan 1"=50' (4 sheets)
- Intersection Grading Plan 1"=20' (1 sheet)

- Pavement Marking Plan 1"=50' (4 sheets)
- Signing Plan 1"=50' (4 sheets)
- Roadway Cross Sections (63 sheets)
- Bikepath Cross Sections (31 sheets)
- Temporary Signal Plan (1 sheet)
- Temporary Cable Plan (1 sheet)
- Traffic Signal Modernization Plan (2 sheets)
- Cable Plan (1 sheet)
- Mast Arm Mounted Street Name Sign Sheet (1 sheet)
- IDOT Traffic Signal Details (6 sheets)
- Pedestrian Underpass No. 1 Lighting Plan (1 sheet)
- Pedestrian Underpass No. 2 Lighting Plan (1 sheet)
- Lighting Details - Controller, Fixture, Service (3 sheets)
- Underpass No. 1
    - General Plan and Elevation (1 sheet)
    - General Notes, Staging Details, and Total Bill of Material (1 sheet)
    - Underpass Details (2 sheets)
    - Wingwall & Headwall Details (7 sheets)
    - Pedestrian Railing & Architectural Details (1 sheet)
    - Bar Splicer Assembly Details (1 sheet)
    - Temporary Concrete Barrier Details (1 sheet)
    - Boring Logs (2 sheet)
- Underpass No. 2
    - General Plan and Elevation (1 sheet)
    - General Notes, Staging Details, and Total Bill of Material (1 sheet)
    - Underpass Details (2 sheets)
    - Wingwall & Headwall Details (8 sheets)
    - Pedestrian Railing & Architectural Details (1 sheet)
    - Bar Splicer Assembly Details (1 sheet)
    - Temporary Concrete Barrier Details (1 sheet)
    - Boring Logs (2 sheet)
- Prefabricated Pedestrian Bridge
    - General Plan and Elevation (1 sheet)
    - Abutment Details (1 sheet)
    - Boring Logs (1 sheet)
- Wall A
    - General Plan and Elevation (1 sheet)
    - General Notes and Total Bill of Material (1 sheet)
    - Typical Wall Sections and Details (1 sheet)
    - Boring Logs (2 sheets)
- Wall B
    - General Plan and Elevation (1 sheet)
    - General Notes, Total Bill of Material, and Typical Details, Wall Plan, Elevations, Sections, and Reinforcement (1 sheet)
    - Details (1 sheet)
    - Boring Logs (2 sheets)
- Wall C
    - General Plan and Elevation (1 sheet)

    - General Notes, Total Bill of Material, and Typical Details, Wall Plan, Elevations, Sections, and Reinforcement (1 sheet)
    - Details (2 sheets)
    - Boring Logs (2 sheets)
- Wall D
    - General Plan and Elevation (1 sheet)
    - General Notes, Total Bill of Material, and Typical Details, Wall Plan, Elevations, Sections, and Reinforcement (1 sheet)
    - Details (2 sheets)
    - Boring Logs (1 sheet)
- Wall E
    - General Plan and Elevation (1 sheet)
    - General Notes and Total Bill of Material (1 sheet)
    - Typical Wall Sections and Details (2 sheets)
    - Boring Logs (2 sheets)
- Wall F
    - General Plan and Elevation (1 sheet)
    - General Notes, Total Bill of Material, and Typical Details, Wall Plan, Elevations, Sections, and Reinforcement (1 sheet)
    - Details (2 sheets)
    - Boring Logs (2 sheets)
- Wall G
    - General Plan and Elevation (2 sheet)
    - General Notes and Total Bill of Material (1 sheet)
    - Typical Wall Sections and Details (4 sheets)
    - Boring Logs (3 sheets)
- Project Specific Construction Details (4 sheets)
- Architectural Details for Retaining Walls (1 sheet)
- LCDOT and IDOT Standard Construction Details (20 sheets)

We estimate that the contract plans will contain a total of **352** sheets.

The cross sections will be prepared at 50-foot intervals and will include full sections at intersections of streets, high and low points along the roadway profile, beginning of project, and end of project limits. Half width cross sections will be prepared at driveways and access points. This work will be in accordance with Lake County Division of Transportation Plan Preparation Guidelines.

The goal with the design of the proposed detention will be to meet the needs of the roadway improvement, conform to the requirements of the Watershed Development Ordinance and be, at a minimum, aesthetically neutral. We propose to utilize the talents of our Landscape Architect to develop a planting scheme which is low maintenance and native in character. Inclusion of appropriate hydrophytic vegetation in the plan will aid in addressing water quality issues.

The Lake County Forest Preserve District has indicated that it is their intent to plant trees north of the IL Route 176 right-of-way as part of a plan to reforest this area. The LCFPD will be responsible for providing marked-up plans showing the location, size, and species of trees to be planted. Civiltech will draft the mark-ups for inclusion in the contract documents. The LCFPD will also be responsible for providing special provisions for the trees covering supplying, planting and maintenance requirements.

For the purposes of estimating the effort required to prepare contract plans and specifications for the underpasses and retaining wall, the following assumptions have been made:

1. Retaining walls are anticipated to be either cast-in-place concrete cantilever T-walls or soldier pile walls with cast-in-place concrete facing..
2. The proposed underpasses and retaining walls will be designed and detailed in accordance with the AASHTO Standard Specifications for Highway Bridge Design, the 2009 IDOT Bridge Manual and the IDOT Standard Specifications for Road and Bridge Construction.
3. The proposed underpasses will be designed for HS-20 design loading.
4. Aesthetic treatments for the retaining walls and underpasses will be considered such as form liner surfaces, staining/coloring, protective coating, formed road names, other aesthetic concrete details, and ornamental railings.

For Underpass No. 1 (west of Fairfield Road), the flowing assumption were also made based on the current Phase I concept drawings:

1. The underpasses will be cast-in-place concrete 3-sided structures founded on spread footings and will provide 18-ft clear width and 10-ft min vertical clearance.
2. Underpass length of approximately 150-ft.
3. Invert of underpass will be located above water table and gravity drained.
4. 4 wingwalls (one at each corner) are expected with maximum retained height of 25-ft and lengths of approximately 40-ft.

For Underpass No. 2 (east of Fairfield Road), the flowing assumption were also made based on the current Phase I concept drawings:

1. The underpasses will be cast-in-place concrete 3-sided structures founded on spread footings and will provide 18-ft clear width and 10-ft min vertical clearance.
2. Underpass length of approximately 105-ft.

3. Invert of underpass will be located above water table and gravity drained.
4. 4 wingwalls (one at each corner) are expected with maximum retained height of 25-ft and lengths of approximately 40-ft.

For the Prefabricated Pedestrian Bridge, the following assumptions were also made based on the current Phase I concept drawings:

1. The bridge will be a single span, prefabricated steel truss bridge founded on concrete spill-thru abutments founded on spread footings, drilled shafts or driven piles.
2. The bridge will not exceed 100 feet in length and will not exceed 12 feet in clear width.
3. The structure will be designed in accordance with AASHTO's Guide Specification for the design of pedestrian bridges and will be designed for an H-10 design loading. The steel truss will be designed and detailed by the contractor.

For the retaining walls, the following assumptions were made based on the current Phase I concept drawings:

| Wall | Road | Sta. | To Sta. | Sid | Length | Max Ht. | Cut/ Fill | Wall Type |
|---|---|---|---|---|---|---|---|---|
| A | IL Rte 176 | 300+50 | 303+00 | N | 250' | 7.5' | Cut | Soldier Pile w/ CIP Facing |
| B | IL Rte 176 | 305+50 | 307+50 | N | 200' | 4' | Cut | Soldier Pile w/ CIP Facing |
| C | IL Rte 176 | 311+75 | 315+50 | N | 375' | 5' | Fill | CIP T-type Wall |
| D | IL Rte 176 | 313+00 | 315+50 | S | 250' | 5' | Fill | CIP T-type Wall |
| E | IL Rte 176 | 316+50 | 320+00 | S | 350' | 9' | Cut | Soldier Pile w/ CIP Facing |
| F | IL Rte 176 | 317+00 | 320+00 | N | 300' | 6' | Cut | Soldier Pile w/ CIP Facing |
| G | Fairfield | 199+50 | 207+50 | E | 800' | 7' | Fill | CIP T-type Wall |

The pre-final contract documents will be submitted to the County, Forest Preserve, and IDOT. We will also submit the contract plans to the various utility companies. This submittal will sufficiently define the conflicts so that the utility companies can, at a minimum, perform the necessary engineering for

any required utility relocations. This allows relocations to be performed in advance of the actual construction. Civiltech will perform the necessary coordination with the utility companies and follow up as needed on each of our submittals. This will attempt to ensure that no utility company is ignoring the project. Depending on the complexity of the utility involvement it may be necessary to conduct periodic coordination meetings. Utility plan submittals will be coordinated with Lake County's Utility Coordinator.

**B. Pre-Final Special Provisions** - We will prepare special provisions that supplement or amend the special provisions contained in the latest edition of the Standard Specifications for Road and Bridge Construction adopted by the Illinois Department of Transportation and the latest edition of the Standard Specifications for Sewer and Watermain Construction in Illinois. Applicable County special provisions will be utilized to supplement the Standard Specifications. In addition, we will include the latest IDOT Recurring Special Provisions Check Sheet. The most recent set of IDOT's Bureau of Design and Environment Special Provisions and District 1 Special Provisions will be reviewed and included in the special provisions where applicable.

**C. Pre-Final Quantity Calculations** - We will perform detailed quantity calculations at the pre-final stage of the plan development. Two sets of calculations will be performed by separate engineers in order to ensure the accuracy of the calculations.

**D. Pre-Final Estimate of Cost and Construction Time** - We will use the quantities of work in order to calculate an Engineer's Estimate of Cost and Time. Estimates will be based on recent bid tab information for projects of similar scope and magnitude.

**E. Pre-Final QA/QC Review** - Prior to submission of the pre-final plans for review, we will perform an internal Quality Assurance / Quality Control review of the work completed. The review will be performed by a professional engineer independent of the design team. The review will consider constructability issues as well as identification of missing pay items, quantities of work, and special provisions required. The design team will also perform a "plan-in-hand" field check to confirm the existing conditions and design.

**F. Pre-Final Project Review Meeting with LCDOT and LCFPD** - A project review meeting will be held with the County and Forest Preserve to address design issues and plan comments generated from the pre-final contract document review.

**G. Pre-Final Project Review Meeting with IDOT** - A project review meeting will be held with the County, Forest Preserve, and IDOT to address design issues and plan comments generated from the pre-final contract document review.

## 5. Final (100%) Plans, Special Provisions and Estimates

**A. Final Plans** - After completion of all agency reviews and resolution of any other agency or utility company concerns, the contract plans will be finalized. In order to assist the Resident Engineer (RE) we will furnish the County, as part of our deliverables, detailed information including all design, quantity calculations, and microstation files in LCDOT format. We will also prepare a technical memorandum to the RE highlighting any key issues, commitments, or special concerns that arose during the design stage of the project.

LCDOT will be responsible for letting the project. Therefore, we will provide LCDOT with pdf's of the plans and bid documents per the LCDOT Bid Package Format Submittal guidelines dated 9/24/09, as well as the number of full and reduced size copies that they request. We will also submit the contract plans to the various utility companies and to IDOT for final permit issuance.

**B. Final Special Provisions -** All comments received pertaining to the pre-final special provisions and bid documents will be addressed and a disposition will be included in the final bid documents. The status and schedule of all utility relocations, as of the date of the final plans, will be included in the bid documents.

**C. Final Quantity Calculations** - The quantities will be updated based on changes made to the plans after the pre-final stage.

**D. Final Estimate of Cost and Construction Time** - The estimates will be updated based on the revised quantities. Cost breakdowns for different funding sources will be provided to the County to assist in the completion of any joint agreements for construction.

**E. Final QA/QC Review** - Prior to the final submittal, a second QA/QC review of the plans and special provisions will be performed.

## 6. Project Administration, Coordination and Permits

**A. Project Administration** - This item includes project setup, monthly invoicing, preparation of status reports, and internal project team coordination meetings.

**B. Project Submittals** - As noted above, we will make the necessary document submittals, and follow through with each agency in regards to their review comments or arrange a review meeting to discuss plan changes necessary to resolve conflicts if possible.

**C. Status Meetings** – For this project, TranSystems will serve as the County's point of contact. We will hold monthly meetings with TranSystems to discuss the status of the project. Based on the enclosed design schedule, we have assumed 13 monthly meetings will be required.

**D. Utility Company Coordination** - As noted above, we will analyze the project for potential impacts to existing utilities. We will provide the utility companies with a list of areas of potential conflict so that additional information, such as horizontal locates or depth borings can be obtained where necessary to further define the extent of conflicts. We will first attempt to address utility conflicts through design modifications while considering the impact those changes will have on the overall improvement. It is anticipated that utility relocation work will be necessary to construct the proposed roadway improvements.

Based on the amount and complexity of the required utility relocation, it may be necessary to have periodic coordination meetings with the utility companies. We have included hours to meet four times with the utility companies. In addition, we will review the permit submittals from the utility companies to ensure that all of the conflicts have been resolved and that the plans are compatible with the proposed construction.

**E. Lake County Stormwater Permitting and Documentation** - This project will require a permit submittal to Lake County Stormwater Management Commission in compliance with the Countywide Stormwater and Floodplain Ordinance. We will prepare and submit the permit application along with the required back-up documentation.

Work associated with the wetland field investigations, jurisdictional determinations, and preliminary endangered species assessments involved with this project have been included previously in the Phase I engineering contract. It is anticipated that wetland impacts will be unavoidable and that mitigation will be required through the purchase of wetland credits. The scope of this work does not include the funding for the actual purchase within the selected wetland bank. The wetland portion of the permitting process will be performed by Cardno ENTRIX (a copy of their proposal is included in Attachment D).

**F. NPDES Permitting and Documentation** - The NPDES permit, along with a Stormwater Pollution Prevention Plan, will also be prepared for inclusion in the contract documents for final execution by the successful bidder. All erosion control design will be in accordance with the latest IEPA, IDOT, and County requirements.

**G. Special Waste**- A Preliminary Environmental Site Assessment report will be prepared by Cardno ENTRIX (a copy of their proposal is included in

Attachment D). If is determined that further detailed studies are required, the preparation of a PSI will be included in a future supplemental agreement. We have included hours for coordination between Civiltech and Cardno ENTRIX.

**H. Bidding Assistance** - We will review any questions received from contractors during the bidding process and provide any necessary responses to clarify the documents.

**I. Pre-Construction Meeting Attendance** - We will attend the pre-construction meeting at LCDOT to answer any questions regarding the design and contract documents. We will also provide responses to any questions from contractors during the bidding process, if necessary.

**J. Post-Approval Alignment Staking** - Upon approval of the roadway plans and alignment, we propose to have the proposed alignment staked with PK nails or iron pipes at the 100-foot stations, station equations and alignment control points, in accordance with the Lake County Division of Transportation Surveying Procedures. This work is to be performed by Jorgensen and Assoicates, Inc. as a subconsultant to Civiltech. The manhours included are for coordination between Civiltech and Jorgensen.

## 7. Construction Assistance

**A. Construction Shop Drawing Reviews** - We will make the necessary construction shop drawing reviews for the retaining walls and underpass structures, and follow through with the Resident Engineer and Contractor in regard to review comments to ensure compliance with the contract documents and the design engineer's intent. For the proposed underpasses, shop drawing review will be performed for the metal pedestrian railings located at the headwalls/wingwalls (4 total railings are anticipated).

**B. Construction Review and Meeting Attendance** - When a problem occurs it is the construction engineer who will utilize their critical thinking, listening, learning, problem solving, monitoring and decision making skills to create and enact a solution. Civiltech will be a resource to the construction engineer for them to seek further clarification to confirm the interpretation of a detail, specification or note on the construction drawings or to secure a documented directive or clarification that is needed to continue work.

## 8. Grade Separation Additive Items

If the grade separation alternate is selected, there will be work that is in addition to the items listed above. The following is the scope of this additional work.

**A. Pavement Design** - We will complete a pavement design for the connector road in accordance with the geotechnical report, County

requirements, and the IDOT BDE Manual.

**B. Drainage Study** – The alternate would create additional impervious area that will need to be detained. The drainage design noted in 2.D. above will be expanded to include this area.

**C. Type, Size and Location (TS&L) for Bridge** – This structure will require a TS&L for review by the Bridge Office. The TS&L will show a plan view, elevation view and cross section of the proposed structures and will describe the propose structure type and foundation treatments. Structure types and sizes will be developed based geometric needs, geotechnical investigations, aesthetic considerations and economics.

**D. Preliminary Plans (65%)** – The following additional sheets will be required for the design of the connector road and the revised access driveway to the dog exercise park:

- Proposed Typical Sections (1 sheet)
- Erosion Control and Landscaping 1"=50' (1 sheet)
- Roadway Plan and Profile 1"=20' (2 sheets)
- Drainage and Utilities 1"=20' (2 sheets)
- Pavement Marking Plan 1"=50' (1 sheet)
- Signing Plan 1"=50' (1 sheet)
- Roadway Cross Sections (7 sheets)

**E. Pre-Final Plans (90%)** – The following additional sheets will be required for the design of the connector road and the revised access driveway to the dog exercise park:

- Proposed Typical Sections (1 sheet)
- Erosion Control and Landscaping 1"=50' (1 sheet)
- Roadway Plan and Profile 1"=20' (2 sheets)
- Drainage and Utilities 1"=20' (2 sheets)
- Intersection Grading Plan 1"=20' (1 sheet)
- Infield Grading Plan 1"=50' (1 sheet)
- Pavement Marking Plan 1"=50' (1 sheet)
- Signing Plan 1"=50' (1 sheet)
- Roadway Cross Sections (7 sheets)
- Traffic Signal Installation Plan (2 sheets)
- Cable Plan (1 sheet)
- Interconnect Plan (1 sheet)
- Interconnect Schematic (1 sheet)
- Bridge Plans
    - General Plan and Elevation (1 sheet)
    - General Data (General Notes and Total Bill of Material (1 sheet)

- Construction Staging (1 sheet)
- Deck Elevations (2 sheets)
- Approach Slab Elevations (1 sheet)
- Deck Plan and Section (1 sheet)
- Superstructure Details (1 sheet)
- Expansion Joint Details (1 sheet)
- Framing Plan and Moment & Reaction Tables (1 sheet)
- Girder Elevation and Diaphragm & Splice Details (1 sheet)
- Bearing Details (1 sheet)
- South Abutment Details (3 sheets)
- North Abutment Details (3 sheets)
- Approach Slab Details (2 sheets)
- Architectural Details (formliners and metal parapet railing) (1 sheet)
- Anchor Bolts – IDOT standard (1 sheet)
- Drainage Scupper Details (1 sheet)
- Temporary Concrete Barrier Details (1 sheet)
- Landscape Walls (1 sheet)
- Boring Logs (2 sheets)

We estimate that the additional contract plans will contain a total of **49** sheets.

For the purposes of estimating the effort required to prepare contract plans and specifications for the bridge, the following assumptions have been made:

A. The bridge will be a tied-down 3-span steel plate girder structure with the short end spans hidden in the abutment to provide a sleek and aesthetically pleasing profile. The estimated bridge length is approximately 200 ft with approx. span lengths of 35-ft, 125-ft and 35-ft. The bridge will carry 2 lanes of traffic, a median, and 2 shoulders across IL Route 176. The estimated width is approximately 55 feet.
B. The substructure will be built to accommodate the future widening of Fairfield Road to a 4-lane section with a median.
C. 2 landscaping walls will be located at each of the 4 wingwalls.
D. The bridge will be designed and detailed in accordance with the AASHTO LRFD Bridge Design Specifications, 5$^{th}$ Edition, the 2009 IDOT Bridge Manual and the IDOT Standard Specifications for Road and Bridge Construction.
E. The bridge will be designed for HL-93 design loading.
F. Aesthetic treatments for the bridge will be considered such as form liner surfaces and ornamental.

F. **Pre-Final Quantity Calculations** – Additional quantity calculations will be required for the connector road and the revised access driveway to the dog exercise park.

G. **Final Plans** - After completion of all agency reviews and resolution of any other agency or utility company concerns, the contract plans will be finalized.

H. **Final Quantity Calculations** - The quantities will be updated based on changes made to the plans after the pre-final stage.

I. **Construction Shop Drawing Reviews** – Shop drawing reviews will be performed on items requiring shop drawing submittals. This is anticipated to include bridge expansion joints, metal railing on concrete parapets, and place girders (including diaphragms and field splices).

## III. PROJECT SCHEDULE

We have prepared the project schedule included in Attachment A. The schedule is based on the at-grade improvement. We have assumed that this engineering proposal will be approved at the first County Board meeting in March and that work will be able to start at the beginning of April. Because of the necessary approvals (LCDOT, LCFPD, LCSMC, and IDOT) we believe it will be difficult to design and permit the project in time to complete all of the construction in 2012. However, it should be possible to let the project in late Spring of 2012. This will allow some advance work to be completed in 2012, including detention basin grading, bike path construction, underpass construction, and retaining wall construction. Once these items are completed, temporary pavement could be constructed which would allow the roadway work to begin in the early Spring of 2013. All of the roadway construction would then be completed by the end of 2013.

If the grade separation alternate is selected, a similar design and construction schedule would be necessary. The overpass structure would likely not be started until 2013 so that the detour of the south leg could be limited to one construction season.

**Phase II Engineering Cost Estimate of Consultant Services**
**Professional Engineering Services Proposal**

**Fairfield Road / IL Route 176 Intersection Improvements**
**Lake County Division of Transportation**

| | Personnel & Hours | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Associate in Charge | Project Manager | Project Engineer | Design Engineer | Lighting Engineer | Signals Engineer | Senior Structural Engineer | Structural Engineer | Design Technician | QC/QA Engineer | | Total Hours | % of Hours | Labor Cost |
| | $60.00 | $44.00 | $36.00 | $27.50 | $36.00 | $33.00 | $60.00 | $41.00 | $28.50 | $60.00 | | | | |
| **1 Data Collection and Early Coordination** | 7 | 41 | 53 | 30 | 0 | 0 | 16 | 16 | 0 | 0 | | 163 | 1.7% | $6,573.00 |
| **2 Preliminary (65%) Engineering** | 87 | 288 | 785 | 951 | 36 | 0 | 78 | 120 | 616 | 0 | | 2961 | 30.4% | $100,756.50 |
| **3 Right-of-Way Documents and Coordination** | 12 | 32 | 52 | 16 | 0 | 0 | 0 | 0 | 8 | 0 | | 120 | 1.2% | $4,668.00 |
| **4 Pre-Final (90%) Plans, Special Provisions and Estimates** | 71 | 247 | 797 | 750 | 42 | 106 | 453 | 1005 | 1117 | 24 | | 4612 | 47.3% | $171,114.50 |
| **5 Final (100%) Plans, Special Provisions and Estimates** | 40 | 114 | 248 | 200 | 22 | 42 | 56 | 48 | 60 | 24 | | 854 | 8.8% | $32,500.00 |
| **6 Project Administration, Coordination and Permits** | 110 | 226 | 206 | 160 | 8 | 0 | 16 | 16 | 16 | 0 | | 758 | 7.8% | $30,720.00 |
| **7 Construction Assistance** | 4 | 88 | 88 | 0 | 0 | 0 | 44 | 52 | 0 | 0 | | 276 | 2.8% | $12,052.00 |
| Total Cost | | | | | | | | | | | | | | $358,384 |
| Multiplier* | 2.93 | | | | | | | | | | | | | $1,050,065 |
| Direct Costs and Sub Consultant Expense (See attached calculation) | | | | | | | | | | | | | | $292,368 |
| | | | | | | | | | | | **Total Engineering Cost:** | **9744** | **100.0%** | **$1,342,433** |
| **8 Grade Separation Additive Items** | 24 | 70 | 176 | 204 | 0 | 120 | 261 | 536 | 445 | 0 | | 1836 | 100.0% | $70,744.50 |
| Total Cost | | | | | | | | | | | | | | $70,745 |
| Multiplier* | 2.93 | | | | | | | | | | | | | $207,281 |
| Direct Costs and Sub Consultant Expense (See attached calculation) | | | | | | | | | | | | | | $38,429 |
| | | | | | | | | | | | **Total Additive Cost for Grade Separation Alternate:** | **1836** | **100.0%** | **$245,711** |
| | | | | | | | | | | | **Total Engineering Cost with Grade Separation Alternate:** | **11580** | | **$1,588,144** |

*Multiplier
1(Direct Labor)+OH + 0.145*(1+OH)
IDOT Approved OH Rate = 155.73%

**Phase II Engineering Manhour Calculations**
**Professional Engineering Services Proposal**

**Fairfield Road / IL Route 176 Intersection Improvement**
**Lake County Division of Transportation**

| Task No. | Task | Personnel & Hours | | | | | | | | | | Total Hours | % of Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Associate In Charge | Project Manager | Project Engineer | Design Engineer | Lighting Engineer | Signals Engineer | Senior Structural Engineer | Structural Engineer | Design Technician | QC/QA Engineer | | |
| 1 | **Data Collection and Early Coordination** | | | | | | | | | | | | |
| A. | Initial Meeting with County and Forest Preserve | 4 | 4 | 6 | | | | | | | | 14 | 8.6% |
| B. | Obtain/Update and Review Record Data | | 2 | 4 | 4 | | | 8 | 8 | | | 26 | 16.0% |
| C. | Preliminary Utility Company Coordination | | | 4 | 4 | | | | | | | 8 | 4.9% |
| D. | Supplemental Topographic Survey | | 12 | 12 | 8 | | | | | | | 32 | 19.6% |
| E. | Geotechnical Studies | | 6 | 8 | 4 | | | | | | | 18 | 11.0% |
| F. | Tree Survey | | 4 | 4 | | | | | | | | 8 | 4.9% |
| G. | Field Review of Survey | | 10 | 10 | 10 | | | 8 | 8 | | | 46 | 28.2% |
| H. | IDOT Project Kick-Off Meeting | 3 | 3 | 5 | | | | | | | | 11 | 6.7% |
| | **Sub-total Item 1** | **7** | **41** | **53** | **30** | **0** | **0** | **16** | **16** | **0** | **0** | **163** | **100.0%** |
| 2 | **Preliminary (65%) Engineering** | | | | | | | | | | | | |
| A. | Plan Base Sheet Preparation | | 2 | 8 | 24 | 4 | | | | 40 | | 78 | 2.6% |
| B. | Review and Confirm Project Right-of-Way Requirements | 4 | 16 | 24 | 16 | | | | | | | 60 | 2.0% |
| C. | Pavement Design | | 2 | 4 | 12 | | | | | | | 18 | 0.6% |
| D. | Drainage Design | 16 | 44 | 132 | 160 | | | | | 48 | | 400 | 13.5% |
| E. | Lighting Design Calculations | | 10 | | | 32 | | | | | | 42 | 1.4% |
| F. | Maintenance of Traffic Concept | 4 | 8 | 24 | 24 | | | | | 12 | | 72 | 2.4% |
| G. | Type, Size and Locations (TS&L) for Underpass No. 1 | | | | | | | 24 | 40 | 26 | | 90 | 3.0% |
| H. | Type, Size and Locations (TS&L) for Underpass No. 2 | | | | | | | 24 | 40 | 26 | | 90 | 3.0% |
| I. | Type, Size and Locations for Prefabricated Pedestrian Bridge | | | | | | | 16 | 24 | 24 | | 64 | 2.2% |
| J. | Preliminary Plans | | | | | | | | | | | | |
| | Cover Sheet and Index of Sheets (1 sheet) | | | 1 | 1 | | | | | 4 | | 6 | 0.2% |
| | General Notes (2 sheets) | | | 2 | 2 | | | | | 4 | | 8 | 0.3% |
| | Existing Typical Sections (3 sheets) | | 2 | 8 | 16 | | | | | 8 | | 34 | 1.1% |
| | Proposed Typical Sections (5 sheets) | | 8 | 12 | 24 | | | | | 12 | | 56 | 1.9% |
| | Erosion Control and Landscaping - 3 stages (12 sheets) | 2 | 12 | 32 | 60 | | | | | 32 | | 138 | 4.7% |
| | Roadway Plan and Profile (17 sheets) | 8 | 40 | 120 | 160 | | | | | 60 | | 388 | 13.1% |
| | Bikepath Plan and Profile (9 sheets) | 4 | 16 | 48 | 64 | | | | | 32 | | 164 | 5.5% |
| | Lakewood Entrance Reconfiguration Plan and Profile (2 sheets) | 2 | 4 | 16 | 16 | | | | | 8 | | 46 | 1.6% |
| | Drainage and Utilities (17 sheets) | 8 | 32 | 80 | 100 | | | | | 64 | | 284 | 9.6% |
| | Lakewood Entrance Reconfiguration Drainage and Utilities (2 sheets) | 2 | 4 | 16 | 24 | | | | | 8 | | 54 | 1.8% |
| | Detention Basin Plan (4 sheets) | 4 | 12 | 32 | 40 | | | | | 40 | | 128 | 4.3% |
| | Pavement Marking Plan (4 sheets) | | 2 | 16 | 24 | | | | | 16 | | 58 | 2.0% |
| | Signing Plan (4 sheets) | | 2 | 16 | 24 | | | | | 16 | | 58 | 2.0% |
| | Roadway Cross Sections (63 sheets) | 8 | 16 | 100 | 100 | | | | | 80 | | 304 | 10.3% |
| | Bikepath Cross Sections (31 sheets) | 2 | 12 | 60 | 60 | | | | | 40 | | 174 | 5.9% |
| K. | Preliminary Design Review Meeting | 4 | 4 | 6 | | | | | | | | 14 | 0.5% |
| L. | Preliminary Soils Design Review Meeting | 3 | 3 | 4 | | | | | | | | 10 | 0.3% |
| M. | Lake County Forest Preserve Coordination | 12 | 32 | 24 | | | | | | | | 68 | 2.3% |
| N. | Aesthetic Features Coordination Meeting and Conceptual Design | 4 | 5 | | | | | 14 | 16 | 16 | | 55 | 1.9% |
| | **Sub-total Item 2** | **87** | **288** | **785** | **951** | **36** | **0** | **78** | **120** | **616** | **0** | **2961** | **100.0%** |
| 3 | **Right-of-Way Documents and Coordination** | | | | | | | | | | | | |
| A. | Subconsultant Coordination | 4 | 24 | 40 | 16 | | | | | 8 | | 92 | 76.7% |
| B. | Right-of-Way Coordination Meeting | 8 | 8 | 12 | | | | | | | | 28 | 23.3% |
| | **Sub-total Item 3** | **12** | **32** | **52** | **16** | **0** | **0** | **0** | **0** | **8** | **0** | **120** | **100.0%** |

**Phase II Engineering Manhour Calculations**
**Professional Engineering Services Proposal**

**Fairfield Road / IL Route 176 Intersection Improvement**
**Lake County Division of Transportation**

| Task No. | Task | Personnel & Hours: Associate in Charge | Project Manager | Project Engineer | Design Engineer | Lighting Engineer | Signals Engineer | Senior Structural Engineer | Structural Engineer | Design Technician | QC/QA Engineer | Total Hours | % of Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | **Pre-Final (90%) Plans, Special Provisions and Estimates** | | | | | | | | | | | | |
| A. | Pre-Final Plans | | | | | | | | | | | | |
| | Cover Sheet and Index of Sheets (1 sheet) | | | 1 | 1 | | | | | | | 2 | 0.0% |
| | General Notes (2 sheets) | | | 1 | 1 | | | | | 1 | | 3 | 0.1% |
| | Summary of Quantities (6 sheets) | | 2 | 4 | 4 | | | | | 4 | | 14 | 0.3% |
| | Schedule of Quantities (20 sheets) | | 4 | 32 | 40 | | | | | 16 | | 92 | 2.0% |
| | Alignment, Ties and Benchmarks (8 sheets) | | 2 | 8 | 16 | | | | | 24 | | 50 | 1.1% |
| | Existing Typical Sections (3 sheets) | | 2 | 4 | 8 | | | | | 4 | | 18 | 0.4% |
| | Proposed Typical Sections (5 sheets) | | 2 | 8 | 16 | | | | | 8 | | 34 | 0.7% |
| | Erosion Control and Landscaping - 3 stages (12 sheets) | 2 | 8 | 24 | 24 | | | | | 8 | | 66 | 1.4% |
| | Lakewood Forest Preserve Reforestation Plan (2 sheets) | | 2 | 4 | | | | | | 24 | | 30 | 0.7% |
| | Stages of Construction - sequences and typical sections (2 sheets) | 2 | 4 | 16 | 16 | | | | | 8 | | 46 | 1.0% |
| | Stages of Construction - 3 stages (12 sheets) | 2 | 12 | 60 | 60 | | | | | 32 | | 166 | 3.6% |
| | Roadway Plan and Profile (17 sheets) | 8 | 40 | 80 | 80 | | | | | 24 | | 232 | 5.0% |
| | Bikepath Plan and Profile (9 sheets) | 2 | 8 | 32 | 48 | | | | | 16 | | 106 | 2.3% |
| | Lakewood Entrance Reconfiguration Plan and Profile (2 sheets) | 2 | 4 | 16 | 16 | | | | | 16 | | 54 | 1.2% |
| | Drainage and Utilities (17 sheets) | 8 | 40 | 80 | 80 | | | | | 24 | | 232 | 5.0% |
| | Lakewood Entrance Reconfiguration Drainage and Utilities (2 sheets) | 2 | 4 | 16 | 16 | | | | | 8 | | 46 | 1.0% |
| | Detention Basin Grading Plan and Details (4 sheets) | 2 | 8 | 32 | 40 | | | | | 16 | | 98 | 2.1% |
| | Detention Basin Planting Plan (4 sheets) | 2 | 8 | 60 | 24 | | | | | 24 | | 118 | 2.6% |
| | Intersection Grading Plan (1 sheet) | | 2 | 16 | | | | | | 8 | | 26 | 0.6% |
| | Pavement Marking Plan (4 sheets) | | 2 | 8 | 8 | | | | | 8 | | 26 | 0.6% |
| | Signing Plan (4 sheets) | | 2 | 8 | 8 | | | | | 8 | | 26 | 0.6% |
| | Roadway Cross Sections (63 sheets) | 4 | 20 | 100 | 100 | | | | | 48 | | 272 | 5.9% |
| | Bikepath Cross Sections (31 sheets) | 2 | 16 | 48 | 60 | | | | | 24 | | 150 | 3.3% |
| | Temporary Signal Plan (1 sheet) | | | | | | 24 | | | | | 24 | 0.5% |
| | Temporary Cable Plan (1 sheet) | | | | | | 8 | | | | | 8 | 0.2% |
| | Traffic Signal Modernization Plan (2 sheets) | | | | | | 32 | | | | | 32 | 0.7% |
| | Cable Plan (1 sheet) | | | | | | 8 | | | | | 8 | 0.2% |
| | Mast Arm Mounted Street Name Sign Sheet (1 sheet) | | | | | | 4 | | | | | 4 | 0.1% |
| | IDOT Traffic Signal Details (6 sheets) | | | | | | 2 | | | | | 2 | 0.0% |
| | Pedestrian Underpass No. 1 Lighting Plan (1 sheet) | | 2 | | | 6 | | | | 4 | | 12 | 0.3% |
| | Pedestrian Underpass No. 2 Lighting Plan (1 sheet) | | 4 | | | 16 | | | | 4 | | 24 | 0.5% |
| | Lighting Details - Controller, Fixture, Service (3 sheets) | | 2 | | | 6 | | | | 6 | | 14 | 0.3% |
| | Underpass No. 1 | | | | | | | | | | | | |
| | General Plan and Elevation (1 sheet) | | | | | | | 2 | 6 | 6 | | 14 | 0.3% |
| | General Notes, Staging Details, and Total Bill of Material (1 sheet) | | | | | | | 8 | 16 | 12 | | 36 | 0.8% |
| | Underpass Details (2 sheets) | | | | | | | 20 | 44 | 36 | | 100 | 2.2% |
| | Wingwall & Headwall Details (7 sheets) | | | | | | | 40 | 120 | 60 | | 220 | 4.8% |
| | Pedestrian Railing & Architectural Details (1 sheet) | | | | | | | 8 | 16 | 16 | | 40 | 0.9% |
| | Bar Splicer Assembly Details (1 sheet) | | | | | | | 1 | 1 | 2 | | 4 | 0.1% |
| | Temporary Concrete Barrier Details (1 sheet) | | | | | | | 1 | 1 | 2 | | 4 | 0.1% |
| | Boring Logs (2 sheet) | | | | | | | 2 | 2 | 4 | | 8 | 0.2% |
| | Underpass No. 2 | | | | | | | | | | | | |
| | General Plan and Elevation (1 sheet) | | | | | | | 2 | 6 | 6 | | 14 | 0.3% |
| | General Notes, Staging Details, and Total Bill of Material (1 sheet) | | | | | | | 8 | 16 | 12 | | 36 | 0.8% |
| | Underpass Details (2 sheets) | | | | | | | 20 | 44 | 36 | | 100 | 2.2% |
| | Wingwall & Headwall Details (8 sheets) | | | | | | | 44 | 124 | 72 | | 240 | 5.2% |
| | Pedestrian Railing & Architectural Details (1 sheet) | | | | | | | 8 | 16 | 16 | | 40 | 0.9% |
| | Bar Splicer Assembly Details (1 sheet) | | | | | | | 1 | 1 | 2 | | 4 | 0.1% |

**Phase II Engineering Manhour Calculations**
**Professional Engineering Services Proposal**

**Fairfield Road / IL Route 176 Intersection Improvement**
**Lake County Division of Transportation**

| Task No. | Task | Personnel & Hours | | | | | | | | | | Total Hours | % of Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Associate in Charge | Project Manager | Project Engineer | Design Engineer | Lighting Engineer | Signals Engineer | Senior Structural Engineer | Structural Engineer | Design Technician | QC/QA Engineer | | |
| | Temporary Concrete Barrier Details (1 sheet) | | | | | | | 1 | 1 | 2 | | 4 | 0.1% |
| | Boring Logs (2 sheet) | | | | | | | 2 | 2 | 4 | | 8 | 0.2% |
| | Prefabricated Pedestrain Bridge | | | | | | | | | | | | |
| | General Plan and Elevation (1 sheet) | | | | | | | 2 | 4 | 4 | | 10 | 0.2% |
| | Abutment Details (1 sheet) | | | | | | | 8 | 20 | 12 | | 40 | 0.9% |
| | Boring Logs (1 sheet) | | | | | | | 1 | 1 | 2 | | 4 | 0.1% |
| | Wall A | | | | | | | | | | | 0 | |
| | General Plan and Elevation (1 sheet) | | | | | | | 8 | 20 | 16 | | 44 | 1.0% |
| | General Notes and Total Bill of Material (1 sheet) | | | | | | | 8 | 16 | 8 | | 32 | 0.7% |
| | Typical Wall Sections and Details (1 sheet) | | | | | | | 8 | 20 | 20 | | 48 | 1.0% |
| | Boring Logs (2 sheets) | | | | | | | 1 | 2 | 2 | | 5 | 0.1% |
| | Wall B | | | | | | | | | | | | |
| | General Plan and Elevation (1 sheet) | | | | | | | 8 | 20 | 16 | | 44 | 1.0% |
| | General Notes, Total Bill of Material, and Typical Details, Wall Plan, Elevations, Sections, and Reinforcement (1 sheet) | | | | | | | 8 | 16 | 8 | | 32 | 0.7% |
| | Details (1 sheet) | | | | | | | 8 | 20 | 20 | | 48 | 1.0% |
| | Boring Logs (2 sheets) | | | | | | | 1 | 2 | 2 | | 5 | 0.1% |
| | Wall C | | | | | | | | | | | | |
| | General Plan and Elevation (1 sheet) | | | | | | | 8 | 20 | 16 | | 44 | 1.0% |
| | General Notes, Total Bill of Material, and Typical Details, Wall Plan, Elevations, Sections, and Reinforcement (1 sheet) | | | | | | | 8 | 16 | 8 | | 32 | 0.7% |
| | Details (2 sheets) | | | | | | | 16 | 36 | 26 | | 78 | 1.7% |
| | Boring Logs (2 sheets) | | | | | | | 2 | 4 | 4 | | 10 | 0.2% |
| | Wall D | | | | | | | | | | | | |
| | General Plan and Elevation (1 sheet) | | | | | | | 8 | 20 | 16 | | 44 | 1.0% |
| | General Notes, Total Bill of Material, and Typical Details, Wall Plan, Elevations, Sections, and Reinforcement (1 sheet) | | | | | | | 8 | 16 | 8 | | 32 | 0.7% |
| | Details (2 sheets) | | | | | | | 16 | 36 | 26 | | 78 | 1.7% |
| | Boring Logs (1 sheet) | | | | | | | 1 | 2 | 2 | | 5 | 0.1% |
| | Wall E | | | | | | | | | | | | |
| | General Plan and Elevation (1 sheet) | | | | | | | 8 | 20 | 16 | | 44 | 1.0% |
| | General Notes and Total Bill of Material (1 sheet) | | | | | | | 8 | 16 | 8 | | 32 | 0.7% |
| | Typical Wall Sections and Details (2 sheets) | | | | | | | 12 | 32 | 32 | | 76 | 1.6% |
| | Boring Logs (2 sheets) | | | | | | | 1 | 2 | 2 | | 5 | 0.1% |
| | Wall F | | | | | | | | | | | | |
| | General Plan and Elevation (1 sheet) | | | | | | | 8 | 20 | 16 | | 44 | 1.0% |
| | General Notes, Total Bill of Material, and Typical Details, Wall Plan, Elevations, Sections, and Reinforcement (1 sheet) | | | | | | | 8 | 16 | 8 | | 32 | 0.7% |
| | Details (2 sheets) | | | | | | | 12 | 32 | 32 | | 76 | 1.6% |
| | Boring Logs (2 sheets) | | | | | | | 1 | 2 | 2 | | 5 | 0.1% |
| | Wall G | | | | | | | | | | | | |
| | General Plan and Elevation (2 sheets) | | | | | | | 12 | 24 | 24 | | 60 | 1.3% |
| | General Notes and Total Bill of Material (1 sheet) | | | | | | | 8 | 16 | 8 | | 32 | 0.7% |
| | Typical Wall Sections and Details (4 sheets) | | | | | | | 32 | 72 | 40 | | 144 | 3.1% |
| | Boring Logs (3 sheets) | | | | | | | 3 | 6 | 6 | | 15 | 0.3% |
| | Project Specific Construction Details (4 sheets) | | 4 | 16 | 24 | | | | | 16 | | 60 | 1.3% |
| | Architectural Details for Retaining Walls (1 sheet) | | | | | | | 8 | 16 | 12 | | 36 | 0.8% |
| | LCDOT and IDOT Standard Construction Details (20 sheets) | | 2 | 4 | | | | | | 24 | | 30 | 0.7% |
| B. | Pre-Final Special Provisions | 2 | 24 | 40 | | 10 | 4 | 16 | 8 | | | 104 | 2.3% |
| C. | Pre-Final Quantity Calculations | | 8 | 60 | 60 | 4 | 24 | 8 | 16 | | | 180 | 3.9% |
| D. | Pre-Final Estimate of Cost and Construction Time | | 2 | 8 | | | | 12 | | | | 22 | 0.5% |

**Phase II Engineering Manhour Calculations**
**Professional Engineering Services Proposal**

**Fairfield Road / IL Route 176 Intersection Improvement**
**Lake County Division of Transportation**

| Task No. | Task | Personnel & Hours: Associate in Charge | Project Manager | Project Engineer | Design Engineer | Lighting Engineer | Signals Engineer | Senior Structural Engineer | Structural Engineer | Design Technician | QC/QA Engineer | Total Hours | % of Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E. | Pre-Final QA/QC Review | 24 | | | | | | | | | 24 | 48 | 1.0% |
| F. | Pre-Final Project Review Meeting with LCDOT and LCFPD | 4 | 4 | 6 | | | | | | | | 14 | 0.3% |
| G. | Pre-Final Project Review Meeting with IDOT | 3 | 3 | 5 | | | | | | | | 11 | 0.2% |
| | **Subtotal Item 4** | **71** | **247** | **797** | **750** | **42** | **106** | **453** | **1005** | **1117** | **24** | **4612** | **100.0%** |
| **5** | **Final (100%) Plans, Special Provisions and Estimates** | | | | | | | | | | | | |
| A. | Final Plans | 16 | 100 | 180 | 160 | 12 | 28 | 16 | 32 | 60 | | 604 | 70.7% |
| B. | Final Special Provisions | | 8 | 24 | | 6 | 2 | 8 | 8 | | | 56 | 6.6% |
| C. | Final Quantity Calculations | | 4 | 40 | 40 | 4 | 12 | 8 | 8 | | | 116 | 13.6% |
| D. | Final Estimate of Cost and Construction Time | | 2 | 4 | | | | | | | | 6 | 0.7% |
| E. | Final QA/QC Review | 24 | | | | | | 24 | | | 24 | 72 | 8.4% |
| | **Sub-total Item 5** | **40** | **114** | **248** | **200** | **22** | **42** | **56** | **48** | **60** | **24** | **854** | **100.0%** |
| **6** | **Project Administration, Coordination and Permits** | | | | | | | | | | | | |
| A. | Project Administration | 24 | 56 | 8 | 8 | | | 16 | 16 | | | 128 | 16.9% |
| B. | Project Submittals | | 4 | 24 | 24 | 8 | | | | | | 60 | 7.9% |
| C. | Status Meetings | 52 | 52 | | | | | | | | | 104 | 13.7% |
| D. | Utility Company Coordination | 16 | 48 | 72 | 24 | | | | | | | 160 | 21.1% |
| E. | Lake County Stormwater Permitting and Documentation | 8 | 32 | 60 | 80 | | | | | 16 | | 196 | 25.9% |
| F. | NPDES Permitting and Documentation | | 4 | 16 | 16 | | | | | | | 36 | 4.7% |
| G. | Special Waste | 2 | 8 | 4 | | | | | | | | 14 | 1.8% |
| H. | Bidding Assistance | 4 | 16 | 16 | 8 | | | | | | | 44 | 5.8% |
| I. | Pre-Construction Meeting Attendance | 4 | 4 | 4 | | | | | | | | 12 | 1.6% |
| J. | Post Approval Alignment Staking | | 2 | 2 | | | | | | | | 4 | 0.5% |
| | **Sub-total Item 6** | **110** | **226** | **206** | **160** | **8** | **0** | **16** | **16** | **16** | **0** | **758** | **100.0%** |
| **7** | **Construction Assistance** | | | | | | | | | | | | |
| A. | Construction Shop Drawing Reviews | | 8 | 8 | | | | 4 | 52 | | | 72 | 26.1% |
| B. | Construction Review and Meeting Attendance | 4 | 80 | 80 | | | | 40 | | | | 204 | 73.9% |
| | **Sub-total Item 7** | **4** | **88** | **88** | **0** | **0** | **0** | **44** | **52** | **0** | **0** | **276** | **100.0%** |
| | **Total Hours (At-Grade Alternate):** | **331** | **1036** | **2229** | **2107** | **108** | **148** | **663** | **1257** | **1817** | **48** | **9744** | |
| | **% of Hours:** | **3.4%** | **10.6%** | **22.9%** | **21.6%** | **1.1%** | **1.5%** | **6.8%** | **12.9%** | **18.6%** | **0.5%** | **100.0%** | |
| **8** | **Grade Separation Additive Items** | | | | | | | | | | | | |
| A. | Pavement Design | | 2 | 2 | 4 | | | | | | | 8 | 0.4% |
| B. | Drainage Design | 4 | 8 | 16 | 16 | | | | | 8 | | 52 | 2.8% |
| C. | Type, Size and Locations (TS&L) for Bridge | | | | | | | 55 | 80 | 45 | | 180 | 9.8% |
| D. | Preliminary Plans (65%) | | | | | | | | | | | | |
| | Proposed Typical Sections (1 sheet) | | 2 | 4 | 4 | | | | | 4 | | 14 | 0.8% |
| | Erosion Control and Landscaping (1 sheet) | 2 | 4 | 8 | 8 | | | | | 8 | | 30 | 1.6% |
| | Roadway Plan and Profile (2 sheets) | 2 | 8 | 24 | 24 | | | | | 8 | | 66 | 3.6% |
| | Drainage and Utilities (2 sheets) | 2 | 4 | 8 | 12 | | | | | 8 | | 34 | 1.9% |
| | Pavement Marking Plan (1 sheet) | | | 2 | 2 | | | | | 2 | | 6 | 0.3% |
| | Signing Plan (1 sheet) | | 2 | 2 | 4 | | | | | 4 | | 12 | 0.7% |
| | Roadway Cross Sections (7 sheets) | 2 | 4 | 12 | 24 | | | | | 12 | | 54 | 2.9% |
| E. | Pre-Final Plans | | | | | | | | | | | | |
| | Proposed Typical Sections (1 sheet) | | 2 | 2 | 2 | | | | | | | 6 | 0.3% |
| | Erosion Control and Landscaping (1 sheet) | | 2 | 4 | 4 | | | | | 4 | | 14 | 0.8% |
| | Roadway Plan and Profile (2 sheets) | 2 | 4 | 8 | 16 | | | | | 8 | | 38 | 2.1% |
| | Drainage and Utilities (2 sheets) | 2 | 4 | 8 | 16 | | | | | 8 | | 38 | 2.1% |

**Phase II Engineering Manhour Calculations**
**Professional Engineering Services Proposal**

**Fairfield Road / IL Route 176 Intersection Improvement**
**Lake County Division of Transportation**

| Task No. | Task | Personnel & Hours | | | | | | | | | | Total Hours | % of Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Associate in Charge | Project Manager | Project Engineer | Design Engineer | Lighting Engineer | Signals Engineer | Senior Structural Engineer | Structural Engineer | Design Technician | QC/QA Engineer | | |
| | Intersection Grading Plan (1 sheet) | | 2 | 16 | | | | | | 8 | | 26 | 1.4% |
| | Infield Grading Plan (1 sheet) | 2 | 4 | 12 | 16 | | | | | 16 | | 50 | 2.7% |
| | Pavement Marking Plan (1 sheet) | | | 4 | 4 | | | | | 4 | | 12 | 0.7% |
| | Signing Plan (1 sheet) | | 2 | 4 | 4 | | | | | 4 | | 14 | 0.8% |
| | Roadway Cross Sections (7 sheets) | 2 | 4 | 8 | 12 | | | | | 8 | | 34 | 1.9% |
| | Traffic Signal Installation Plan (2 sheets) | | | | | | 24 | | | | | 24 | 1.3% |
| | Cable Plan (1 sheet) | | | | | | 8 | | | | | 8 | 0.4% |
| | Interconnect Plan (1 sheet) | | | | | | 12 | | | | | 12 | 0.7% |
| | Interconnect Schematic (1 sheet) | | | | | | 8 | | | | | 8 | 0.4% |
| | Bridge Plans | | | | | | | | | | | | |
| | General Plan and Elevation (1 sheet) | | | | | | | 2 | 8 | 6 | | 16 | 0.9% |
| | General Data (General Notes and Total Bill of Material (1 sheet) | | | | | | | 8 | 16 | 12 | | 36 | 2.0% |
| | Construction Staging (1 sheet) | | | | | | | 8 | 16 | 12 | | 36 | 2.0% |
| | Deck Elevations (2 sheets) | | | | | | | 8 | 24 | 12 | | 44 | 2.4% |
| | Approach Slab Elevations (1 sheet) | | | | | | | 4 | 10 | 12 | | 26 | 1.4% |
| | Deck Plan and Section (1 sheet) | | | | | | | 8 | 24 | 16 | | 48 | 2.6% |
| | Superstructure Details (1 sheet) | | | | | | | 8 | 16 | 20 | | 44 | 2.4% |
| | Expansion Joint Details (1 sheet) | | | | | | | 4 | 12 | 10 | | 26 | 1.4% |
| | Framing Plan and Moment & Reaction Tables (1 sheet) | | | | | | | 24 | 50 | 12 | | 86 | 4.7% |
| | Girder Elevation and Diaphragm & Splice Details (1 sheet) | | | | | | | 24 | 32 | 16 | | 72 | 3.9% |
| | Bearing Details (1 sheet) | | | | | | | 8 | 20 | 16 | | 44 | 2.4% |
| | South Abutment Details (3 sheets) | | | | | | | 24 | 48 | 40 | | 112 | 6.1% |
| | North Abutment Details (3 sheets) | | | | | | | 24 | 48 | 40 | | 112 | 6.1% |
| | Approach Slab Details (2 sheets) | | | | | | | 8 | 24 | 8 | | 40 | 2.2% |
| | Architectural Details (formliners and metal parapet railing) (1 sheet) | | | | | | | 8 | 24 | 16 | | 48 | 2.6% |
| | Anchor Bolts - IDOT standard (1 sheet) | | | | | | | | 2 | 2 | | 4 | 0.2% |
| | Drainage Scupper Details (1 sheet) | | | | | | | | 2 | 2 | | 4 | 0.2% |
| | Temporary Concrete Barrier Details (1 sheet) | | | | | | | | 2 | 2 | | 4 | 0.2% |
| | Landscape Walls (1 sheet) | | | | | | | 8 | 24 | 12 | | 44 | 2.4% |
| | Boring Logs (2 sheets) | | | | | | | 2 | 4 | 4 | | 10 | 0.5% |
| F. | Pre-Final Quantity Calculations | | 2 | 8 | 8 | | 32 | 10 | 2 | | | 52 | 3.4% |
| G. | Final Plans | 4 | 8 | 16 | 16 | | 24 | | | 4 | | 72 | 3.9% |
| H. | Final Quantity Calculations | | 2 | 8 | 8 | | 12 | 8 | 20 | | | 58 | 3.2% |
| I. | Construction Shop Drawing Reviews | | | | | | | 8 | 28 | 12 | | 48 | 2.6% |
| | **Sub-total Item 8** | **24** | **70** | **176** | **204** | **0** | **120** | **261** | **536** | **445** | **0** | **1836** | **100.0%** |
| | **% of Hours:** | **1.3%** | **3.8%** | **9.6%** | **11.1%** | **0.0%** | **6.5%** | **14.2%** | **29.2%** | **24.2%** | **0.0%** | **100.0%** | |

**Direct Cost and Sub Consultant Calculation**
**Professional Engineering Services Proposal**

**Fairfield Road / IL Route 176 Intersection Improvement**
**Lake County Division of Transportation**

| DIRECT COSTS - AT-GRADE ALTERNATE | | |
|---|---|---|
| **ITEM 1 - Printing** | | |
| ***Preliminary Plans*** | | |
| LCDOT 1 set X 176 sheets/set X $0.60/sheet (Full size) | | $105.60 |
| LCDOT 3 sets X 186 sheets/set X $0.15/sheet (Half size) | | $79.20 |
| LCFPD 5 sets X 176 sheets/set X $0.60/sheet (Full size) | | $528.00 |
| ***Pre-Final Plans*** | | |
| LCDOT 1 set X 352 sheets/set X $0.60/sheet (Full size) | | $211.20 |
| LCDOT 3 sets X 352 sheets/set X $0.15/sheet (Half size) | | $158.40 |
| LCFPD 5 sets X 352 sheets/set X $0.60/sheet (Full size) | | $1,056.00 |
| IDOT 15 sets X 352 sheets/set X $0.60/sheet (Full size) | | $3,168.00 |
| Utility Co's 12 sets X 352 sheets/set X $0.60/sheet (Full size) | | $2,534.40 |
| ***Pre-Final Specification Books*** | | |
| LCDOT 3 books X $25/book | | $75.00 |
| LCFPD 5 books X $25/book | | $125.00 |
| IDOT 15 books X $25/book | | $375.00 |
| ***Final Plans*** | | |
| LCDOT 1 set X 352 sheets/set X $0.60/sheet (Full size) | | $211.20 |
| LCDOT 3 sets X 352 sheets/set X $0.15/sheet (Half size) | | $158.40 |
| LCFPD 5 sets X 352 sheets/set X $0.60/sheet (Full size) | | $1,056.00 |
| IDOT 15 sets X 352 sheets/set X $0.60/sheet (Full size) | | $3,168.00 |
| Utility Co's 12 sets X 352 sheets/set X $0.60/sheet (Full size) | | $2,534.40 |
| ***Final Specification Books*** | | |
| LCDOT 1 book X $25/book | | $25.00 |
| LCFPD 5 books X $25/book | | $125.00 |
| IDOT 15 books X $25/book | | $375.00 |
| | **Total Item 1** | **$16,068.80** |
| **ITEM 2 - Shipping** | | |
| 50 overnight shipping items X $25/each | | |
| | **Total Item 2** | **$1,250.00** |
| **ITEM 3 - Vehicle Expense** | | |
| Mileage | | |
| | **Total Item 3** | **$500.00** |
| **ITEM 4 - Supplemental Survey** | | |
| Jorgensen and Associates | | |
| Roadway, detention area, and Forest Preserve entrance | | $22,512.23 |
| Bikepath alignment | | $23,897.05 |
| | **Total Item 4** | **$46,409.28** |
| **ITEM 5 - Geotechnical Investigation** | | |
| Midland Standard Testing & Engineering | | |
| | **Total Item 5** | **$108,413.00** |
| **ITEM 6 - Tree Survey** | | |
| Cardno ENTRIX | | |
| | **Total Item 6** | **$7,694.00** |

**Direct Cost and Sub Consultant Calculation**
**Professional Engineering Services Proposal**

**Fairfield Road / IL Route 176 Intersection Improvement**
**Lake County Division of Transportation**

| | | |
|---|---|---|
| **ITEM 7 - Wetland Permitting** | | |
| Cardno ENTRIX | | |
| | **Total Item 7** | **$11,885.00** |
| **ITEM 8 - Preliminary Environmental Site Assessment (PESA)** | | |
| Cardno ENTRIX | | |
| | **Total Item 8** | **$8,344.00** |
| **ITEM 9 - Right-of-Way Negotiations and Appraisals** | | |
| ***ROW Documents (Jorgensen and Associates)*** | $ | 64,804.17 |
| ***Appraisals*** | | |
| 5 parcels X $2,000/parcel | $ | 10,000.00 |
| ***Review Appraisals (T Engineering LTD)*** | $ | 4,000.00 |
| ***Negotiations (Steve Santacruz & Associates)*** | $ | 13,000.00 |
| | **Total Item 9** | **$91,804.17** |
| **TOTAL DIRECT COSTS - AT-GRADE ALTERNATE:** | | **$292,368.25** |

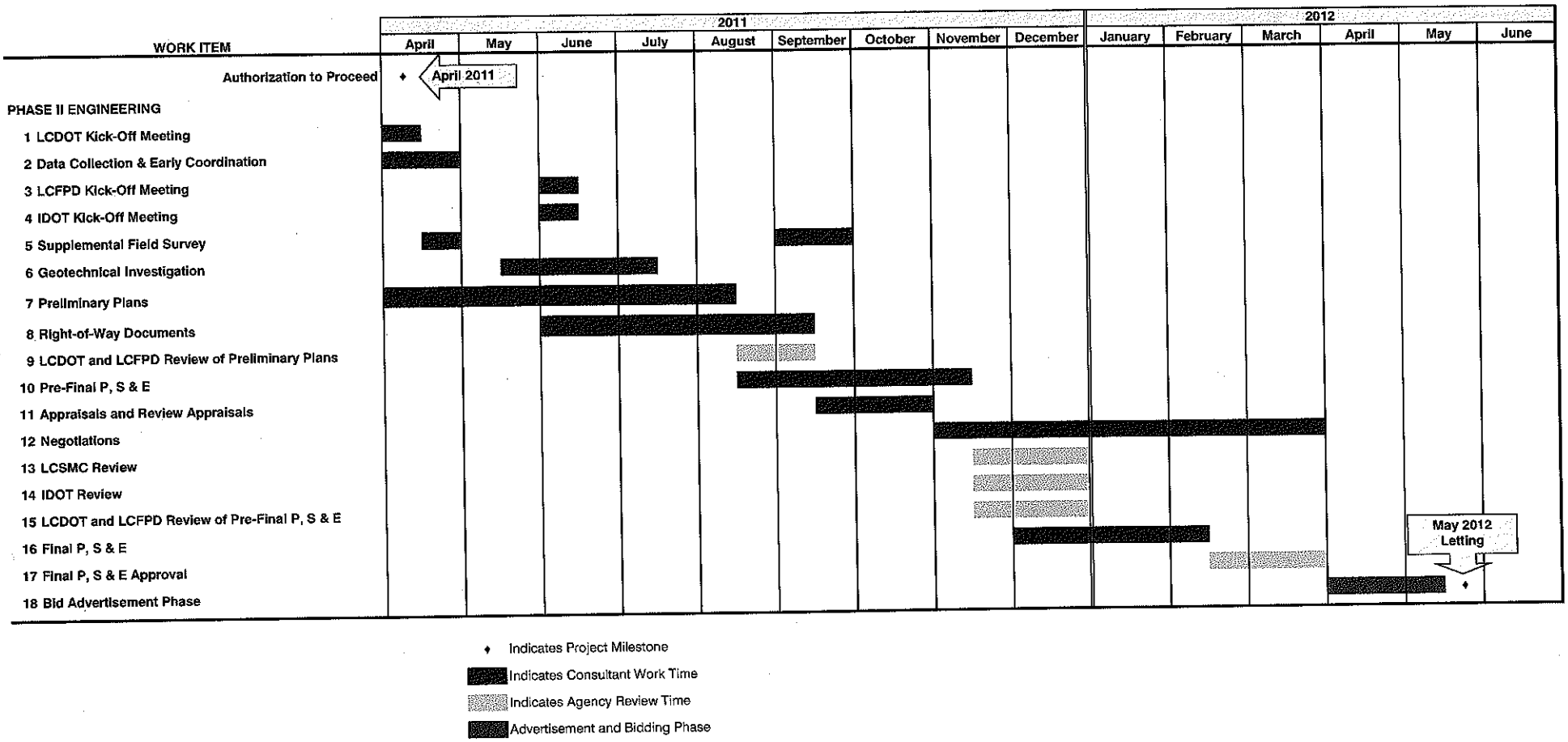
**Direct Cost and Sub Consultant Calculation**
**Professional Engineering Services Proposal**

**Fairfield Road / IL Route 176 Intersection Improvement**
**Lake County Division of Transportation**

| DIRECT COSTS - GRADE SEPARATION ALTERNATE - ADDITIVE ITEMS | | |
|---|---|---|
| **ITEM 1 - Printing** | | |
| ***Preliminary Plans*** | | |
| LCDOT 1 set X 15 sheets/set X $0.60/sheet (Full size) | | $9.00 |
| LCDOT 3 sets X 15 sheets/set X $0.15/sheet (Half size) | | $6.75 |
| LCFPD 5 sets X 15 sheets/set X $0.60/sheet (Full size) | | $45.00 |
| ***Pre-Final Plans*** | | |
| LCDOT 1 set X 49 sheets/set X $0.60/sheet (Full size) | | $29.40 |
| LCDOT 3 sets X 49 sheets/set X $0.15/sheet (Half size) | | $22.05 |
| LCFPD 5 sets X 49 sheets/set X $0.60/sheet (Full size) | | $147.00 |
| IDOT 15 sets X 49 sheets/set X $0.60/sheet (Full size) | | $441.00 |
| Utility Co's 12 sets X 49 sheets/set X $0.60/sheet (Full size) | | $352.80 |
| ***Pre-Final Specification Books*** | | |
| LCDOT 3 books X $25/book | | $75.00 |
| LCFPD 5 books X $25/book | | $125.00 |
| IDOT 15 books X $25/book | | $375.00 |
| ***Final Plans*** | | |
| LCDOT 1 set X 49 sheets/set X $0.60/sheet (Full size) | | $29.40 |
| LCDOT 3 sets X 49 sheets/set X $0.15/sheet (Half size) | | $22.05 |
| LCFPD 5 sets X 49 sheets/set X $0.60/sheet (Full size) | | $147.00 |
| IDOT 15 sets X 49 sheets/set X $0.60/sheet (Full size) | | $441.00 |
| Utility Co's 12 sets X 49 sheets/set X $0.60/sheet (Full size) | | $352.80 |
| ***Final Specification Books*** | | |
| LCDOT 1 book X $25/book | | $25.00 |
| LCFPD 5 books X $25/book | | $125.00 |
| IDOT 15 books X $25/book | | $375.00 |
| | **Total Item 1** | **$3,145.25** |
| **ITEM 2 - Geotechnical Investigation** | | |
| Midland Standard Testing & Engineering | | |
| | **Total Item 2** | **$35,284.00** |
| **TOTAL DIRECT COSTS - GRADE SEPARATION ALT. - ADDITIVE ITEMS** | | **$38,429.25** |

Phase II Engineering Schedule
Professional Engineering Services Proposal

Fairfield Road / IL Route 176 Intersection Improvements
Lake County Division of Transportation



**ATTACHMENT B**

**Subconsultant Proposal**

**Jorgensen and Associates, Inc**
**(Supplemental Topographic Survey)**

**JORGENSEN & ASSOCIATES, INC.**
**CONSTRUCTION and LAND SURVEYORS**
*Est. 1990*

December 22, 2010

Mr. David J. Kreeger, P.E.
Civiltech Engineering, Inc.
450 East Devon Avenue
Suite 300
Itasca, Illinois 60143

Re: Fairfield Road and Illinois Route 176 Survey Proposal

Dear Mr. Kreeger:

Enclosed, please find our proposal to prepare a supplemental topographic survey, a statutory plat of highways with legal descriptions for the grade improvement, the grade separated improvement and the topographic survey for the new bike trail, all as contained in your email of December 13th, concerning the referenced project.

I would like to thank you for considering Jorgensen & Associates for this project. We look forward to continuing our working relationship with your firm. Should you have any questions, comments or require any further information concerning our proposal, please feel free to call me at (847)356-3371.

Respectfully submitted,
Jorgensen & Associates, Inc.

Christian H. Jorgensen, P.L.S.
President

CHJ/pt

Enclosures

E:\Civilted\Lake\Fairfield Rd\LTR

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Exhibit "A"**

Hourly Rate Range - Consultant's Regular Staff

| Classification | From | To |
|---|---|---|
| Principal, Manager, P.L.S. | 39.00 | 41.00 |
| Supervisor, Project Surveyor | 38.00 | 40.00 |
| Cadd Supervisor, Survey Party Chief | 21.00 | 26.00 |
| Instrument Operator, Cadd Operator, assignable Clerical and Secretarial Labor | 14.00 | 19.00 |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Exhibit "B"**

Payroll Burden & Fringe Costs

| | % of Direct Productive Payroll |
|---|---|
| Federal Insurance Contributions Act | 10.90% |
| State Unemployment Compensation | 0.24% |
| Federal Unemployment Compensation | 0.20% |
| Workmen's Compensation Insurance | 0.94% |
| Paid Holidays, Vacation, Sick Leave, Personal Leave | 9.24% |
| Bonus | 3.58% |
| Pension | 0.54% |
| Group Insurance | 24.68% |
| Total Payroll Burden & Fringe Costs | 50.32% |

E:\Civiltech\Lake\Fairfield Rd\EXB

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Exhibit "C"**

Overhead and Indirect Costs

| | % of Direct Productive Payroll |
|---|---|
| Business Insurance | 4.19% |
| Depreciation | 8.09% |
| Indirect wages and salaries | 29.66% |
| Reproductive and printing costs | 0.06% |
| Office Supplies | 1.93% |
| Computer Costs | 0.16% |
| Professional Fees | 1.01% |
| Telephone | 1.27% |
| Fees, license & dues | 1.14% |
| Repairs and maintenance | 0.37% |
| Business space rent | 3.60% |
| Facilities - capital | 1.17% |
| Recruiting | 0.27% |
| Survey Supplies | 3.08% |
| Automobile/travel expense | 0.43% |
| Equipment Rental | 0.67% |
| Miscellaneous Expense | 1.07% |
| State Income Tax | 0.58% |
| Postage | 0.24% |
| Total Overhead | 58.99% |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**SUPPLEMENTAL TOPOGRAPHIC SURVEY**
**Exhibit "D"**

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

**A. Principal/Officer ..... $ 40.00**
**B. Supervisor, P.L.S. ..... $ 39.00**
**C. Survey Party Chief ..... $ 21.50**
**D. Instrument Operator ..... $ 17.00**
**E. Cadd Supervisor ..... $ 25.50**

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**SUPPLEMENTAL TOPOGRAPHIC SURVEY**
**Exhibit "D"**

Average Hourly Rate Calculation

Sheet 2 of 2

| | | | | | |
|---|---|---|---|---|---|
| Principal/Officer | 2 hours | @ | $40.00/hour | = | $ 80.00 |
| Supervisor, P.L.S. | 22 hours | @ | $39.00/hour | = | $ 858.00 |
| Survey Party Chief | 146 hours | @ | $21.50/hour | = | $ 3,139.00 |
| Instrument Operator | 146 hours | @ | $17.00/hour | = | $ 2,482.00 |
| Cadd Supervisor | 98 hours | @ | $25.50/hour | = | $ 2,499.00 |
| | 414 hours | | | | $ 9,058.00 |

Average Hourly Rate = $\frac{\$9,058.00}{414}$ = $21.88/hour

Route: Fairfield Road
Section: @ Illinois Route 176
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 15, 2011
Description: Supplemental Topographic Survey

| Item | Number of Man Hours (A) | Payroll (B) | Overhead & Fringe Benefits (C) | In-House Direct Costs (D) | Sub-Total (E) | Profit (F) | Services By Others | Total | Percent of Grand Total |
|---|---|---|---|---|---|---|---|---|---|
| 1) Field - Supplemental Topographic Survey | 292 | $5,621.00 | $6,144.32 | $315.00 | $12,080.32 | $2,001.78 | N/A | $14,082.10 | 62.55% |
| 2) Office - Compile Field Data | 41 | $1,140.00 | $1,246.13 | $0.00 | $2,386.13 | $396.72 | N/A | $2,782.85 | 12.36% |
| 3) Office - Create Supplemental Topography Base Sheets | 72 | $2,011.50 | $2,198.77 | $0.00 | $4,210.27 | $700.00 | N/A | $4,910.27 | 21.81% |
| 4) Office - Create T.I.N. & Contours | 7 | $205.50 | $224.63 | $0.00 | $430.13 | $71.51 | N/A | $501.65 | 2.23% |
| 5) Coordination Meetings | 2 | $80.00 | $87.45 | $35.00 | $202.45 | $32.92 | N/A | $235.36 | 1.05% |
| TOTALS | 414 | $9,058.00 | $9,901.30 | $350.00 | $19,309.30 | $3,202.93 | $0.00 | $22,512.23 | 100.00% |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Manhour Breakdown**
**Supplemental Topographic Survey Estimate**

| | |
|---|---|
| Forest Preserve Entrance | ± 1,100' |
| Illinois Route 176 | ± 250' |
| Fairfield Road | ± 200' |
| Proposed Detention | 5.65 Acres |

1. Field – Supplemental Topographic Survey

   a. Locate existing topography
   146 hours x 2 men = 292 MH

2. Office - Compile Field Data

   a. Compute traverse
   5 hours x 1 man = 5 MH

   b. Compute level circuit
   2 hours x 1 man = 2 MH

   c. Edit & compile topographic survey
   34 hours x 1 man = 34 MH

   Sub-total Item #2 41 MH

3. Office - Create Supplemental Topography Base Sheets

   a. Layout and drafting
   59 hours x 1 man = 59 MH

   b. Check topographic survey
   13 hours x 1 man = 13 MH

   Sub-total Item #3 72 MH

4. Office - Create T.I.N. & Contours

   a. Compute contours
      5 hours x 1 man = 5 MH

   b. Check contours
      2 hours x 1 man = 2 MH

Sub-total Item #4 7 MH

5. Coordination Meetings
   1 meeting @ 2 hrs. = 2 MH

Total All Items 414 MH

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Manhour Breakdown By Item**

| Item | Classification | Manhours |
|---|---|---|
| 1. Field – Supplemental Topographic Survey | Survey Party Chief<br>Instrument Operator | 146<br>146 |
| 2. Office - Compile Field Data | Supervisor, P.L.S.<br>Cadd Supervisor | 7<br>34 |
| 3. Office – Create Supplemental Topography Base Sheets | Supervisor, P.L.S.<br>Cadd Supervisor | 13<br>59 |
| 4. Office - Create T.I.N. and Contours | Supervisor, P.L.S.<br>Cadd Supervisor | 2<br>5 |
| 5. Coordination Meetings | Principal/Officer | 2 |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Breakdown of**
**In House Direct Costs**

Item

1. Field – Supplemental Topographic Survey

    a. Trips to project site - 18 ea.
    ± 35 miles/trip x 18 trips = ± 630 miles
    ± 630 miles @ $0.50/mile = $ 315.00

5. Coordination Meetings

    a. Meetings at Civiltech office - 1 ea.
    ± 70 miles/trip x 1 trip = ± 70 miles
    ± 70 miles @ $0.50/mile = $ 35.00

Total All Items $ 350.00

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**TOPOGRAPHIC SURVEY**
**Exhibit "D"**

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

**A. Principal/Officer ..... $ 40.00**
**B. Supervisor, P.L.S. ..... $ 39.00**
**C. Survey Party Chief ..... $ 21.50**
**D. Instrument Operator ..... $ 17.00**
**E. Cadd Supervisor ..... $ 25.50**

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**TOPOGRAPHIC SURVEY**
**Exhibit "D"**

Average Hourly Rate Calculation

Sheet 2 of 2

| | | | | | |
|---|---|---|---|---|---|
| Principal/Officer | 2 hours | @ | $40.00/hour | = | $ 80.00 |
| Supervisor, P.L.S. | 26 hours | @ | $39.00/hour | = | $ 1,014.00 |
| Survey Party Chief | 141 hours | @ | $21.50/hour | = | $ 3,031.50 |
| Instrument Operator | 141 hours | @ | $17.00/hour | = | $ 2,397.00 |
| Cadd Supervisor | 122 hours | @ | $25.50/hour | = | $ 3,111.00 |
| | 432 hours | | | | $ 9,633.50 |

Average Hourly Rate = $\frac{\$9,633.50}{432}$ = $22.30/hour

Route: Fairfield Road
Section: @ Illinois Route 176
Project: New Bike Path
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: December 22, 2010
Description: Topographic Survey

| Item | Number of Man Hours (A) | Payroll (B) | Overhead & Fringe Benefits (C) | In-House Direct Costs (D) | Sub-Total (E) | Profit (F) | Services By Others | Total | Percent of Grand Total |
|---|---|---|---|---|---|---|---|---|---|
| 1) Field - Topographic Survey | 282 | $5,428.50 | $5,933.89 | $297.50 | $11,659.89 | $1,932.26 | N/A | $13,592.15 | 56.88% |
| 2) Office - Compile Field Data | 46 | $1,321.50 | $1,444.53 | $0.00 | $2,766.03 | $459.88 | N/A | $3,225.91 | 13.50% |
| 3) Office - Create Existing Topography Base Sheets | 92 | $2,521.50 | $2,756.25 | $0.00 | $5,277.75 | $877.48 | N/A | $6,155.23 | 25.76% |
| 4) Office - Create T.I.N. & Contours | 10 | $282.00 | $308.25 | $0.00 | $590.25 | $98.14 | N/A | $688.39 | 2.88% |
| 5) Coordination Meetings | 2 | $80.00 | $87.45 | $35.00 | $202.45 | $32.92 | N/A | $235.36 | 0.98% |
| TOTALS | 432 | $9,633.50 | $10,530.38 | $332.50 | $20,496.38 | $3,400.67 | $0.00 | $23,897.05 | 100.00% |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Manhour Breakdown**
**Topographic Survey**

New Bike Path ± 5,900' = ± 1.117 miles

1. Field – Topographic Survey

   a. Locate existing topography
      141 hours x 2 men = 282 MH

2. Office - Compile Field Data

   a. Compute traverse
      8 hours x 1 man = 8 MH

   b. Compute level circuit
      3 hours x 1 man = 3 MH

   c. Edit & compile topographic survey
      35 hours x 1 man = 35 MH

   Sub-total Item #2 46 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      79 hours x 1 man = 79 MH

   b. Check topographic survey
      13 hours x 1 man = 13 MH

   Sub-total Item #3 92 MH

4. Office - Create T.I.N. & Contours

   a. Compute contours
      8 hours x 1 man = 8 MH

   b. Check contours
      2 hours x 1 man = 2 MH

Sub-total Item #4 10 MH

5. Coordination Meetings
   1 meeting @ 2 hrs. = 2 MH

Total All Items 432 MH

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Manhour Breakdown By Item**
**Topographic Survey**

| Item | Classification | Manhours |
|---|---|---|
| 1. Field – Topographic Survey | Survey Party Chief | 141 |
| | Instrument Operator | 141 |
| 2. Office - Compile Field Data | Supervisor, P.L.S. | 11 |
| | Cadd Supervisor | 35 |
| 3. Office – Create Existing Topography Base Sheets | Supervisor, P.L.S. | 13 |
| | Cadd Supervisor | 79 |
| 4. Office - Create T.I.N. and Contours | Supervisor, P.L.S. | 2 |
| | Cadd Supervisor | 8 |
| 5. Coordination Meetings | Principal/Officer | 2 |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Breakdown of**
**In House Direct Costs**
**Topographic Survey**

Item

1. Field – Topographic Survey

    a. Trips to project site - 17 ea.
    ± 35 miles/trip x 17 trips = ± 595 miles
    ± 595 miles @ $0.50/mile = $ 297.50

5. Coordination Meetings

    a. Meetings at Civiltech office - 1 ea.
    ± 70 miles/trip x 1 trip = ± 70 miles
    ± 70 miles @ $0.50/mile = $ 35.00

Total All Items $ 332.50

**ATTACHMENT C**

**Subconsultant Proposal**

**Midland Standard Engineering & Testing, Inc.**
**(Geotechnical Investigation)**

MSET

WWW.MSETINC.COM

**MIDLAND STANDARD ENGINEERING & TESTING, INC.**

558 Plate Drive, Unit 6 East Dundee, Illinois 60118
(847) 844-1895 f(847) 844-3875

February 14, 2011

Mr. David J. Kreeger, P.E.
**Civiltech Engineering, Inc.**
450 E. Devon Avenue, Suite 300
Itasca, Illinois 60602

Re: Proposal for Roadway Soils Survey, Structure Borings, and Pavement Cores
**Illinois Route 176 and Fairfield Road Interchange**
**Alternate 1- At Grade Crossing**
Lake County, Illinois

Dear Mr. Kreeger:

We are pleased to have the opportunity to submit the following proposal for performance of a roadway soil survey, structure borings, and roadway coring for the proposed improvements on the referenced project.

Project Description and Scope of Work
The proposed project from a soil investigation standpoint includes the following work items:

Item 1 – The widening and reconstruction of Illinois Route 176 on both sides of Fairfield Road for a total approximate length of 4200 lineal feet. For this work, a total of fourteen (14) soil borings, and seven (7) pavement cores along the existing alignment are planned.

Item 2 – The widening and reconstruction of Fairfield Road on both sides of Route 176 for a total approximate length of 3700 lineal feet. For this work, a total of thirteen (13) soil borings, and six (6) pavement cores along the existing alignment are planned.

Item 3 – The roadway embankment widening for both Fairfield Road and Route 176, in seven areas requires the use of a retaining wall to accommodate grade changes. The walls are anticipated to be less than ten feet in height and range from 250 to 800 feet in length. For this work, a total of thirty-three (33) soil borings, spaced at approximate 100-foot intervals along the proposed wall alignments are planned. The planned boring depth for Walls No. 1 through 7 is 15 feet. Wall No. 8 is located in probable Peat soils and the planned boring depth is 25 feet. The roadway widening improvements also includes expansion of as many as five storm water detention areas. A total of eight (8) soil borings are planned to investigate these areas.

Item 4 – The project improvements include a significant rerouting of Millennium Bike Trail which involves the construction of approximately 7400 lineal feet of new path and two roadway underpass structures for Route 176 crossings. The roadway underpass/ trail improvements include eight retaining wall structures, each with an estimated 20 feet of retained earth. For this work, a total of twenty-five (25) shallow depth, trail subgrade borings are planned. A total of four (4) structure borings are planned for the underpass structures, two (2) borings for the bridge, and fourteen (14) borings for the underpass retaining walls. Temporary ground water monitoring wells will be installed in some boreholes to monitor the ground water level for the underpass structures.

Method of Performance - Field Work

The typical subgrade soil survey exploration will be accomplished by performing roadway subgrade profile borings spaced at approximately 300-foot intervals, on alternating sides of the alignment.

a) The roadway soil survey borings will be extended to a depth of ten (10) feet with split spoon sampling at 30-inch intervals or more frequently if required to sample all soil strata. The bike path subgrade borings will be extended to a depth of five (5) feet.

b) Pavement cores will be made along the existing alignments, at approximate 600-foot intervals, to determine the existing pavement section.

c) Structure boring for the proposed retaining walls along Route 176 and Fairfield Road will be spaced at 100-foot intervals and drilled to depths of fifteen (15) to twenty-five (25) feet. Borings made for the storm water detention areas will be drilled to a fifteen (15) foot depth.

d) Structure borings for the pedestrian underpass and bridge structures will be located at both ends, and drilled to a depth of forty (40) feet.

e) Structure borings for the Millennium Trail retaining walls, adjacent to the underpasses, will be drilled to a depth of forty (40) feet.

f) Laboratory testing will include moisture content determinations, consistency (penetrometer value), determination on cohesive soil samples and classification tests as required to identify major subgrade soil types. The major subgrade soil types will be subject to an Illinois Bearing Ratio determination. Soil consolidation tests and soil tri-axial shear strength test will be performed for settlement and global stability analysis associated with the larger structures.

The soil survey borings will be performed in compliance with the current State of Illinois, Geotechnical Manual' January 1999.

Method of Performance - Analysis and Report

The boring information will be used to develop soils profile drawings and boring logs as required which will be prepared showing the soil types and test data in accordance with applicable specifications. We understand that digital copies of the plan and profile, showing existing and proposed grade, will be provided by Civiltech for our plotting of the soil profile.

The results of this field exploration and laboratory testing would be used in an analysis and formulation of our recommendations. Major subject areas for our analysis, recommendations and report would include, identification of subgrade soil treatment areas, general earthwork recommendations, description of the existing pavement section encountered in the cores, and subgrade soil strength criteria for input to the pavement design being done by the Design Engineer for the roadway improvements. Foundation and construction recommendations will be provided for the roadway underpass structures and the retaining walls. The following soil reports are anticipated.

1. A roadway soil survey report for Illinois Route 176 and Fairfield Road.
2. Separate SGR reports for the two trail underpass structures for Route 176.
3. One soil report for the eight (8) retaining wall structures along Route 176 and along Fairfield Road.
4. A subgrade soil survey report for the new sections of Millennium Trail.
5. One structure soil report for the eight (8) retaining walls and one pedestrian bridge along Millennium Trail.

The written reports summarizing and presenting the data and recommendations will be prepared by a Professional Engineer, licensed in the State of Illinois.

Comments and Timing

We will begin on work after notice to proceed. The retaining wall borings, north and south of the trail underpass will require permission to access Forest Preserve land, and may require trimming of low tree branches for drill rig access. We plan on mobilizing and doing all the borings concurrently. Final reports and profiles will be coordinated with Civiltech as the base plan and profile drawings and other designs are completed.

Fee

We propose to provide this work at the unit rates quoted on the attached Schedule of Services and Fees, Attachments 1.1 and 1.2. We understand that this is a prevailing wage project. These estimated quantities and unit rates are based on information as outlined in this proposal and experience on past projects. On the basis of the above information, we estimate that these services can be provided for a fee of: **$ 108, 413.00**

Closure

Our staff is acquainted with the local subsurface conditions and has participated in the planning, development and execution of numerous highway soil explorations in this area. We appreciate the opportunity to provide our services and look forward to working with you on this project. If you have any questions concerning our proposed scope of work or fees, please contact us.

Very truly yours,
MIDLAND STANDARD ENGINEERING & TESTING, INC.

William J. Wyzgala, P.E.
Vice President

WJW

Enclosure: Attachments 1.1 and 1.2, and General Conditions

**ATTACHMENT 1.1**

**SCHEDULE OF SERVICES AND FEES** 2/14/11

**ILLINOIS ROUTE 176 AT FAIRFIELD ROAD - ALTERNATE 1**
**LAKE COUNTY, ILLINOIS**

| Item | Estimated Quantity | Unit Cost | Extension |
|---|---|---|---|
| Field Services | | | |
| Mobilization of Drilling equipment, traffic control and personnel, lump sum | 2 | $650.00 | $1,300.00 |
| Use of ATV, per day | 16 | $350.00 | $5,600.00 |
| 176 & Fairfield Roadway profile borings with Split Spoon Sampling, l.f. | 270 | $21.00 | $5,670.00 |
| 176 & Fairfield Retaining Walls & Basins Structure Borings, per lineal foot | 705 | $21.00 | $14,805.00 |
| Shelby Tube Samples, each | 4 | $55.00 | $220.00 |
| Pavement Cores, per each | 13 | $150.00 | $1,950.00 |
| Traffic Control, per day | 4 | $660.00 | $2,640.00 |
| Bike path borings to five foot depth with Split Spoon Sampling, l.f. | 125 | $21.00 | $2,625.00 |
| Millenium Trail Underpass, Walls, & Bridge Structure Borings, per lineal foot | 800 | $24.00 | $19,200.00 |
| | | **Field Services Total:** | **$54,010.00** |
| Laboratory Services | | | |
| Moisture Content Determinations, ea | 773 | $6.00 | $4,638.00 |
| Unconfined Compressive Strength, ea. | 515 | $4.00 | $2,060.00 |
| Atterberg Limit Determination, ea. | 16 | $80.00 | $1,280.00 |
| Hydrometer/Grain Size Analysis, ea. | 16 | $90.00 | $1,440.00 |
| Organic Content Test, ea. | 4 | $75.00 | $300.00 |
| Illinois Bearing Ratio including Standard Proctor Test, ea. | 3 | $275.00 | $825.00 |
| Shelby Tube sample extrusion & handling, each | 4 | $30.00 | $120.00 |
| Consolidation Properties of Soils (2-1/2" Dia. Specimen), ea. | 2 | $400.00 | $800.00 |
| Triaxial Testing (2.8" Nominal Diameter Sample), each | 2 | $1,200.00 | $2,400.00 |
| | | **Laboratory Services Total:** | **$13,863.00** |

Engineering Services for Soil Survey Including:
Layout Coordination w/Design Engineer, Utility Clearance and Permits
Field Engineer/Geologist to Monitor Drilling
Preparation of Soil Profile Drawings
Preparation of Core Logs and Boring Logs
Analysis and Recommendations for Earthwork & Foundations
Report Preparation, Consultation

**Estimated Cost (@ Unit Rates Listed on Attachment 1.2)** **$40,540.00**

**TOTAL:** **$108,413.00**

**ATTACHMENT 1.2**

**ENGINEERING SERVICES** 2/14/11

**ILLINOIS ROUTE 176 AT FAIRFIELD ROAD - ALTERNATE 1**
**LAKE COUNTY, ILLINOIS**

Our fees for Engineering Services will be based on the actual number of hours required to complete the work, and will be determined on a Unit Rate Basis at these rates for each classification of personnel:

| | Est. Quantity | Rate/Hour | Extension |
|---|---|---|---|
| Principal Engineer, per hr. | 12 | $150.00 | $1,800.00 |
| Project Engineer, per hr. | 68 | $120.00 | $8,160.00 |
| Staff Engineer, per hr. | 90 | $100.00 | $9,000.00 |
| Field Engineer, per hr. | 190 | $90.00 | $17,100.00 |
| Draftsman/Technician, per hr. | 64 | $70.00 | $4,480.00 |
| | | | **$40,540.00** |

EFFECTIVE JANUARY, 2011

# *MIDLAND STANDARD ENGINEERING & TESTING, INC.*

FEE AND RATE SCHEDULE
GENERAL CONDITIONS

ENGINEERING AND ASSOCIATED SERVICES

Fees for our services will be based upon the time worked on the project at the following rates:

| | Rate Per Hour |
|---|---|
| Project Engineer | |
| Project Mgr./Sr. Engineer, P.E. | |
| Project Engineer, P.E. | |
| Sr. Staff/Field Engineer | |
| Field Engineer | See attached |
| Eng. Technician | proposal |
| Sr. Technician | for rates |
| Technician | |
| CAD Draftsman | |
| Draftsman | |
| Word Processing | |

OVERTIME RATES: Applicable to all classifications below
Staff Eng. - O.T. Rates are 1.40 times straight time

REIMBURSABLE EXPENSES

The following items are reimbursable to the extent of actual expenses:

1. Transportation, lodging and subsistence for out of town travel
2. Long distance telephone, telegraph and cable charges.
3. Special mailings and shipping charges.
4. Special materials and equipment unique to the project.
5. Automobile travel on projects.
6. Computer charges.

TEST BORINGS AND FIELD INVESTIGATIONS

On projects requiring test borings, test pits, or other explorations, we may obtain the services of reputable subcontractors to perform such work.

SPECIAL RATES

Per Diem or other special rates can be established for specific projects when conditions indicate the desirability of such rates.

INCREASES

Fee schedule increases made by our firm on an over-all client basis will be applied to work on all projects as they become effective. At least 30 days advance notice of such increases will be given.

ACCESS TO SITES

Unless otherwise agreed, the Client will furnish us with right-of-access to the site in order to conduct the planned exploration. We will take responsible precautions to minimize damage to the site due to our operations, but have not included in the fee the cost of restoration of any damage resulting from the operations. If the Client desires, we will restore any damage to the site and add the cost of restoration to the fee.

WE RESERVE THE RIGHT TO SUSPEND OR TERMINATE WORK UNDER ORAL AGREEMENT UPON FAILURE OF THE CLIENT TO PAY INVOICES AS DUE.

INSURANCE

We maintain Workman's Compensation Insurance and Employer's Liability Insurance in conformance with state law. In addition, we maintain Comprehensive General Liability Insurance and Automobile Liability Insurance with bodily injury (limit $1,000,000 each occurrence, $1,000,000 aggregate) and property damage (limit $1,000,000 each occurrence, $1,000,000 aggregate).

Within the limits of said insurance, we agree to hold the client harmless from and against loss, damage, injury or liability arising directly from the negligent acts or omissions of ourselves, our employees, agents, subcontractors and their employees and agents. If the client placed greater responsibilities upon us or requires further insurance coverage, we if specifically so directed will take out additional insurance (if procurable) to protect us, at the clients' expense. But we shall not be responsible for property damage from any cause, including fire and explosion, beyond the amounts and coverage of our insurance.

LIMITATION OF PROFESSIONAL LIABILITY

The Client recognizes the inherent risks connected with construction. In performing our professional services, we will use that degree of care and skill ordinarily exercised, under similar circumstances, by reputable members of our profession practicing in the same or similar locality. No other warranty, express or implied, is made or intended by the proposal for consulting service or by furnishing oral or written reports of the findings made. It is agreed that the Client will limit any and all liability, claim for damages, cost of defense or expenses to be levied against us on account of any design defect, error, omission, or professional negligence to a sum not to exceed $50,000, or the amount of our fees, which ever is greater.

INVOICES

Progress invoices will be submitted to the client monthly and a final bill will be submitted upon completion of the services. Invoices will show charges for different personnel and expense classifications. A more detailed separation of charges and data will be provided at clients request, but each invoice is due on presentation and is past due thirty (30) days from invoice date. Client agrees to pay a finance charge of 1 1/2% per month, or the maximum rate allowed by law on past due accounts.

The client's obligation to pay for the work contracted is in no way dependent upon the clients ability to obtain financing, zoning, approval of governmental or regulatory agents, or upon the client's successful completion of the project.

MSET

WWW.MSETINC.COM

**MIDLAND STANDARD ENGINEERING & TESTING, INC.**

558 Plate Drive, Unit 6 East Dundee, Illinois 60118
(847) 844-1895 f(847) 844-3875

February 14, 2011

Mr. David J. Kreeger, P.E.
**Civiltech Engineering, Inc.**
450 E. Devon Avenue, Suite 300
Itasca, Illinois 60602

Re: Proposal for Roadway Soils Survey, Structure Borings, and Pavement Cores
**Illinois Route 176 and Fairfield Road Interchange**
**Alternate 2- Fairfield Road over Route 176**
Lake County, Illinois

Dear Mr. Kreeger:

We are pleased to have the opportunity to submit the following proposal for performance of a roadway soil survey, structure borings, and roadway coring for the proposed improvements on the referenced project.

Project Description and Scope of Work
The proposed project from a soil investigation standpoint includes the following work items:

Item 1 – The widening and reconstruction of Illinois Route 176 on both sides of Fairfield Road for a total approximate length of 3000 lineal feet. For this work, a total of eleven (11) soil borings, and six (6) pavement cores along the existing alignment are planned.

Item 2 – The widening and reconstruction of Fairfield Road on both sides of Route 176 for a total approximate length of 2600 lineal feet. This work will involve the construction of a twenty-five foot high embankment for a bridge crossing of Route 176. For this work, a total of twelve (12) soil borings, and four (4) pavement cores along the existing alignment are planned.

Item 3 – This project alternate includes a bridge structure for Fairfield Road over Route 176. Preliminary thoughts for this structure are a three-span structure with a length of 180 feet and a width of 86 feet. To explore foundation conditions for the bridge, eight (8) structure borings to a depth of seventy-five (75) feet are planned. This work will be presented in a separate IDOT SGR (structure geotechnical report).

Item 4 – The roadway embankment widening for both Fairfield Road and Route 176, in several areas requiring the use of a retaining wall to accommodate grade changes. The walls are anticipated to be less than ten feet in height and range from 250 to 800 feet in length. For this work, a total of thirty-three (33) soil borings, spaced at approximate 100-foot intervals, along the proposed wall alignments are planned. The roadway

widening improvements also includes expansion of as many as five storm water detention areas. A total of eight (8) soil borings are planned to investigate these areas.

Item 5 – The project improvements include a significant rerouting of Millennium Bike Trail which involves the construction of approximately 7400 lineal feet of new path and two roadway underpass structures for Route 176 crossings. The roadway underpass/ trail improvements include eight retaining wall structures, each with an estimated 20 feet of retained earth. For this work, a total of twenty-five (25) shallow depth, trail subgrade borings are planned. A total of four (4) structure borings are planned for the underpass structures, two (2) for the bridge, and fourteen (14) borings for the retaining walls. Temporary ground water monitoring wells will be installed in some boreholes to monitor the ground water level for the under pass structures.

Item 6 – An approximate 1000 lineal feet of new connector roadway is planned to complete the intersection access. For this work, a total of four (4) soil borings along the proposed alignment are planned.

Method of Performance - Field Work

The typical subgrade soil survey exploration will be accomplished by performing roadway subgrade profile borings spaced at approximately 300-foot intervals, on alternating sides of the alignment.

a) The roadway soil survey borings will be extended to a depth of ten (10) feet with split spoon sampling at 30-inch intervals or more frequently if required to sample all soil strata. The bike path subgrade borings will be extended to a depth of five (5) feet.

b) Pavement cores will be made along the existing alignments, at approximate 600-foot intervals, to determine the existing pavement section.

c) Structure borings for the bridge will be located at both ends of the abutments and piers, eight total, and drilled to a depth of seventy-five (75) feet.

d) Structure boring for the proposed Route 176 and Fairfield Road retaining walls will be spaced at 100-foot intervals and drilled to depths of fifteen (15) to twenty-five (25) feet. Borings made for the storm water detention areas will be drilled to a fifteen (15) foot depth.

e) Structure borings for the pedestrian underpass and bridge structures will be located at both ends, and drilled to a depth of forty (40) feet.

f) Structure borings for the Millennium Trail retaining walls, adjacent to the underpasses, will be spaced at 75 to 100 foot intervals and drilled to a depth of forty (40) feet.

g) Laboratory testing will include moisture content determinations, consistency (penetrometer value), determination on cohesive soil samples and classification tests as required to identify major subgrade soil types. The major subgrade soil types will be subject to an Illinois Bearing Ratio determination. Soil consolidation tests and soil tri-axial shear strength test will be performed for settlement and global stability analysis associated with the larger structures.

The soil survey borings will be performed in compliance with the current State of Illinois, Geotechnical Manual' January 1999.

Method of Performance - Analysis and Report

The boring information will be used to develop soils profile drawings and boring logs as required which will be prepared showing the soil types and test data in accordance with applicable specifications. We understand that digital copies of the plan and profile, showing existing and proposed grade, will be provided by Civiltech for our plotting of the soil profile.

The results of this field exploration and laboratory testing would be used in an analysis and formulation of our recommendations. Major subject areas for our analysis, recommendations and report would include, identification of subgrade soil treatment areas, general earthwork recommendations, description of the existing pavement section encountered in the cores, and subgrade soil strength criteria for input to the pavement design being done by the Design Engineer for the roadway improvements. Foundation and construction recommendations will be provided for the roadway underpass structures and the retaining walls. The following soil reports are anticipated.

1. A roadway soil survey report for Illinois Route 176 and Fairfield Road.
2. Separate SGR reports for the two trail underpass structures for Route 176.
3. One soil report for the eight (8) retaining wall structures along Route 176 and along Fairfield Road.
4. A subgrade soil survey report for the new sections of Millennium Trail.
5. One structure soil report for the eight (8) retaining walls and one bridge along Millennium Trail.
6. A SGR report for the bridge structure, Fairfield Road over Route 176.

A written report summarizing and presenting the data and recommendations will be prepared by a Professional Engineer, licensed in the State of Illinois.

Comments and Timing

We will begin on work after notice to proceed. The retaining wall borings, north and south of the trail underpass will require permission to access Forest Preserve land, and may require trimming of low tree branches for drill rig access. We plan on mobilizing and doing all the borings concurrently. Final reports and profiles will be coordinated with Civiltech as the base plan and profile drawings and other designs are completed.

Fee

We propose to provide this work at the unit rates quoted on the attached Schedule of Services and Fees, Attachments 1.1 and 1.2. We understand that this is a prevailing wage project. These estimated quantities and unit rates are based on information as outlined in this proposal and experience on past projects. On the basis of the above information, we estimate that these services can be provided for a fee of: **$ 143, 697.00**

Closure

Our staff is acquainted with the local subsurface conditions and has participated in the planning, development and execution of numerous highway soil explorations in this area. We appreciate the opportunity to provide our services and look forward to working with you on this project. If you have any questions concerning our proposed scope of work or fees, please contact us.

Very truly yours,
MIDLAND STANDARD ENGINEERING & TESTING, INC.

William J. Wyzgala, P.E.
Vice President
Enclosure: Attachments 2.1 and 2.2, and General Conditions

**ATTACHMENT 2.1**

**SCHEDULE OF SERVICES AND FEES** 2/14/11

**ILLINOIS ROUTE 176 AT FAIRFIELD ROAD - ALTERNATE 2**
**LAKE COUNTY, ILLINOIS**

| Item | Estimated Quantity | Unit Cost | Extension |
|---|---|---|---|
| Field Services | | | |
| Mobilization of Drilling equipment, traffic control and personnel, lump sum | 2 | $650.00 | $1,300.00 |
| Use of ATV, per day | 16 | $350.00 | $5,600.00 |
| Bridge Structure Borings, per lineal foot | 600 | $24.00 | $14,400.00 |
| 176 & Fairfield Roadway profile borings with Split Spoon Sampling, l.f. | 310 | $21.00 | $6,510.00 |
| 176 & Fairfield Retaining Walls & Basins Structure Borings, lineal foot | 705 | $21.00 | $14,805.00 |
| Shelby Tube Samples, each | 8 | $55.00 | $440.00 |
| Pavement Cores, per each | 10 | $150.00 | $1,500.00 |
| Traffic Control, per day | 5 | $660.00 | $3,300.00 |
| Bike path borings to six foot depth with Split Spoon Sampling, l.f. | 125 | $21.00 | $2,625.00 |
| Millenium Trail Walls & Underpasses Structure Borings, lineal foot | 800 | $24.00 | $19,200.00 |
| | | **Field Services Total:** | **$69,680.00** |
| Laboratory Services | | | |
| Moisture Content Determinations, ea | 1027 | $6.00 | $6,162.00 |
| Unconfined Compressive Strength, ea. | 685 | $4.00 | $2,740.00 |
| Atterberg Limit Determination, ea. | 18 | $80.00 | $1,440.00 |
| Hydrometer/Grain Size Analysis, ea. | 18 | $90.00 | $1,620.00 |
| Organic Content Test, ea. | 3 | $75.00 | $225.00 |
| Illinois Bearing Ratio including Standard Proctor Test, ea. | 2 | $275.00 | $550.00 |
| Shelby Tube sample extrusion & handling, each | 8 | $30.00 | $240.00 |
| Consolidation Properties of Soils (2-1/2" Dia. Specimen), ea. | 4 | $400.00 | $1,600.00 |
| Triaxial Testing (2.8" Nominal Diameter Sample), each | 4 | $1,200.00 | $4,800.00 |
| | | **Laboratory Services Total:** | **$19,377.00** |

Engineering Services for Soil Survey Including:
Layout Coordination w/Design Engineer, Utility Clearance and Permits
Field Engineer/Geologist to Monitor Drilling
Preparation of Soil Profile Drawings
Preparation of Core Logs and Boring Logs
Analysis and Recommendations for Earthwork & Foundations
Preparation of Six Soil Reports, Consultation

**Estimated Cost (@ Unit Rates Listed on Attachment 1.2)** **$54,640.00**

**TOTAL:** **$143,697.00**

**ATTACHMENT 2.2**

**ENGINEERING SERVICES** 2/14/11

**ILLINOIS ROUTE 176 AT FAIRFIELD ROAD - ALTERNATE 2**
**LAKE COUNTY, ILLINOIS**

Our fees for Engineering Services will be based on the actual number of hours required to complete the work, and will be determined on a Unit Rate Basis at these rates for each classification of personnel:

| | Est. Quantity | Rate/Hour | Extension |
|---|---|---|---|
| Principal Engineer, per hr. | 16 | $150.00 | $2,400.00 |
| Project Engineer, per hr. | 104 | $120.00 | $12,480.00 |
| Staff Engineer, per hr. | 120 | $100.00 | $12,000.00 |
| Field Engineer, per hr. | 254 | $90.00 | $22,860.00 |
| Draftsman/Technician, per hr. | 70 | $70.00 | $4,900.00 |
| | | | **$54,640.00** |

EFFECTIVE JANUARY, 2011

# *MIDLAND STANDARD ENGINEERING & TESTING, INC.*

FEE AND RATE SCHEDULE
GENERAL CONDITIONS

ENGINEERING AND ASSOCIATED SERVICES

Fees for our services will be based upon the time worked on the project at the following rates:

| | Rate Per Hour |
|---|---|
| Project Engineer | |
| Project Mgr./Sr. Engineer, P.E. | |
| Project Engineer, P.E. | |
| Sr. Staff/Field Engineer | |
| Field Engineer | See attached |
| Eng. Technician | proposal |
| Sr. Technician | for rates |
| Technician | |
| CAD Draftsman | |
| Draftsman | |
| Word Processing | |

OVERTIME RATES: Applicable to all classifications below
Staff Eng. - O.T. Rates are 1.40 times straight time

REIMBURSABLE EXPENSES

The following items are reimbursable to the extent of actual expenses:

1. Transportation, lodging and subsistence for out of town travel
2. Long distance telephone, telegraph and cable charges.
3. Special mailings and shipping charges.
4. Special materials and equipment unique to the project.
5. Automobile travel on projects.
6. Computer charges.

TEST BORINGS AND FIELD INVESTIGATIONS

On projects requiring test borings, test pits, or other explorations, we may obtain the services of reputable subcontractors to perform such work.

SPECIAL RATES

Per Diem or other special rates can be established for specific projects when conditions indicate the desirability of such rates.

INCREASES

Fee schedule increases made by our firm on an over-all client basis will be applied to work on all projects as they become effective. At least 30 days advance notice of such increases will be given.

ACCESS TO SITES

Unless otherwise agreed, the Client will furnish us with right-of-access to the site in order to conduct the planned exploration. We will take responsible precautions to minimize damage to the site due to our operations, but have not included in the fee the cost of restoration of any damage resulting from the operations. If the Client desires, we will restore any damage to the site and add the cost of restoration to the fee.

WE RESERVE THE RIGHT TO SUSPEND OR TERMINATE WORK UNDER ORAL AGREEMENT UPON FAILURE OF THE CLIENT TO PAY INVOICES AS DUE.

INSURANCE

We maintain Workman's Compensation Insurance and Employer's Liability Insurance in conformance with state law. In addition, we maintain Comprehensive General Liability Insurance and Automobile Liability Insurance with bodily injury (limit $1,000,000 each occurrence, $1,000,000 aggregate) and property damage (limit $1,000,000 each occurrence, $1,000,000 aggregate).

Within the limits of said insurance, we agree to hold the client harmless from and against loss, damage, injury or liability arising directly from the negligent acts or omissions of ourselves, our employees, agents, subcontractors and their employees and agents. If the client placed greater responsibilities upon us or requires further insurance coverage, we if specifically so directed will take out additional insurance (if procurable) to protect us, at the clients' expense. But we shall not be responsible for property damage from any cause, including fire and explosion, beyond the amounts and coverage of our insurance.

LIMITATION OF PROFESSIONAL LIABILITY

The Client recognizes the inherent risks connected with construction. In performing our professional services, we will use that degree of care and skill ordinarily exercised, under similar circumstances, by reputable members of our profession practicing in the same or similar locality. No other warranty, express or implied, is made or intended by the proposal for consulting service or by furnishing oral or written reports of the findings made. It is agreed that the Client will limit any and all liability, claim for damages, cost of defense or expenses to be levied against us on account of any design defect, error, omission, or professional negligence to a sum not to exceed $50,000, or the amount of our fees, which ever is greater.

INVOICES

Progress invoices will be submitted to the client monthly and a final bill will be submitted upon completion of the services. Invoices will show charges for different personnel and expense classifications. A more detailed separation of charges and data will be provided at clients request, but each invoice is due on presentation and is past due thirty (30) days from invoice date. Client agrees to pay a finance charge of 1 1/2% per month, or the maximum rate allowed by law on past due accounts.

The client's obligation to pay for the work contracted is in no way dependent upon the clients ability to obtain financing, zoning, approval of governmental or regulatory agents, or upon the client's successful completion of the project.

**ATTACHMENT D**

**Subconsultant Proposal**

**Cardno ENTRIX**
**(Tree Survey, Wetland Permitting, and PESA)**

Cardno ENTRIX

Shaping the Future

December 22, 2010

Cardno ENTRIX

1000 Hart Road
Suite 130
Barrington, IL 60010
USA

Phone 847 277 2850
Toll-free 800 368 7511
Fax 847 381 6679
www.cardno.com

www.cardnoentrix.com

David J. Kreeger, P.E.
Project Manager
Civiltech Engineering, Inc.
450 East Devon Avenue, Suite 300
Itasca, IL 60143

**Subject: Proposal to Provide Environmental Services**
**Fairfield Road and IL Route 176 Intersection Improvements**
**Unincorporated Lake County, Illinois**

Dear Mr. Kreeger:

Cardno ENTRIX (Cardno ENTRIX) is pleased to present Civiltech Engineering, Inc. (Civiltech) with this proposal to conduct Phase II wetland permitting, tree survey, and Preliminary Environmental Site Assessment (PESA) services for the Fairfield Road and IL Route 176 Improvements Project (Fairfield/IL Route 176 Project) located in unincorporated Lake County, Illinois. Services presented herein coincide with Phase II transportation engineering related services and include: wetland permitting preparation and submittal; wetland mitigation banking coordination; tree survey report preparation; and PESA report preparation. These proposed services include coordination with the Lake County Planning, Building and Development Department (LCPB&D) for Lake County Watershed Development Permit (WDP) permitting, and the United States Army Corps of Engineers (USACE) for Clean Water Act (CWA) Section 401/404 permitting. These proposed services also include completion of a PESA in accordance with the Illinois Department of Transportation (IDOT) requirements. Cardno ENTRIX presents this proposal in the following sections: project description, limitations and reliability, scope of work, project team, project schedule, project costs, and proposal acceptance.

## PROJECT DESCRIPTION

Cardno ENTRIX understands that Civiltech has been retained by the Lake County Division of Transportation (LCDOT) to provide Phase II transportation engineering services for the Fairfield/IL Route 176 Project. These proposed improvements include reconstruction and widening of approximately 2,000 linear feet of each roadway leg stemming from the Fairfield Road and IL Route 176 intersection. Two intersection alternatives are currently being proposed, including an at-grade intersection and a grade separation crossing. Cardno ENTRIX understands the defined limits of the Fairfield/IL Route 176 Project are within the existing roadway and proposed alternatives roadway right-of-way, and within 100 feet of the proposed bikepath alignment and stormwater detention areas as presented by Civiltech to Cardno ENTRIX on December 13th, 2010. These limits constitute the Project Corridor. As these limits are entirely located in unincorporated Lake County, Cardno ENTRIX anticipates that wetland regulatory agency coordination will be conducted with the LCPB&D and the USACE. Cardno

ENTRIX has based services outlined in this proposal on requirements presented in the Lake County Watershed Development Ordinance (LCWDO), the USACE Regional Permit Program (RPP), and the criteria outlined in the IDOT Bureau of Local Roads and Streets (BLRS) manual.

In preparing this proposal, Cardno ENTRIX has made the following assumptions:

1) There are no state and federal threatened and endangered species within, adjoining, or adjacent to the Project Corridor;

2) There are no Lake County Advanced Identification (ADID) wetlands or high-quality aquatic resources (HQAR) within, adjoining, or adjacent to the Project Corridor;

3) Wetland mitigation banking is the desired and approved method for mitigation by LCPB&D and USACE. Cardno ENTRIX also assumes that appropriate wetland mitigation banks are available, and that Civiltech and LCDOT are responsible for all wetland banking mitigation fees;

4) Cardno ENTRIX has not included wetland mitigation design, plan preparation, monitoring, or management in this proposal;

5) Cardno ENTRIX assumes that the Fairfield/IL Route 176 Project will fall under the USACE Regional Permit Program (RPP). Individual Permit (IP) coordination services are not included in this scope of work. Should an IP be required, Cardno ENTRIX will contact Civiltech to discuss further permit requirements; and

6) ENTRIX has assumed that no other environmental concerns are present within the Project Corridor that would impede the LCPB&D and USACE permit process, such as the presence of state and federal threatened and endangered species, protected historical and cultural sites, and environmental due diligence. Additional environmental due diligence conditions and assumptions are included under the Limitations and Liabilities section of this proposal.

**LIMITATIONS AND RELIABILITY**

Cardno ENTRIX will utilize methods and procedures consistent with good commercial or customary practices designed to conform to acceptable industry standards referenced in the IDOT Phase 1 PESA guidance materials, which reference ASTM E-1527-05 standards. Cardno ENTRIX understands this guidance to include reference to the adopted AAI Rule (40 CFR 312).

The Cardno ENTRIX PESA is limited to the information available at the time services are rendered. This limitation includes visual observations made on the day of inspection, review of readily available and relevant data/reports, and statements made and information provided by the client, his agents, land-owners or tenants of subject property and adjacent properties, outside parties, and regulatory agencies. A PESA is a limited and non-exhaustive survey that is intended to evaluate whether the readily available information about a property and/or adjacent properties indicates that the historic or current use of the site and/or adjacent sites: has resulted in releases or threatened releases of hazardous materials; or are potentially responsible for recognized environmental conditions which could negatively impact the value of the property and future liability, and financial exposure of future property owners.

## SCOPE OF WORK

Cardno ENTRIX proposes to complete the requested environmental services in four (4) optional tasks. Each task is proposed to be selected on an as needed basis, and will only be performed by Cardno ENTRIX under authorization to proceed from Civiltech.

Task 1: LCPB&D and USACE Permit Coordination and Submittal;

Task 2: Tree Survey Report;

Task 3: Preliminary Environmental Site Assessment (PESA) Report; and

Task 4: LCPB&D and USACE Permit Re-Submittal.

Cardno ENTRIX has based this proposal on the Fairfield/IL Route 176 Project Phase I services provided to LCDOT by Civiltech, the services provided by Cardno ENTRIX to Civiltech, and the information provided to Cardno ENTRIX regarding the development of the Phase I process. As part of the proposed tasks, Cardno ENTRIX will utilize the Fairfield/IL Route 176 engineering plan set and alternatives as prepared by Civiltech, and the Wetland Delineation Report as prepared by Cardno ENTRIX.

### Task 1 - LCPB&D and USACE Permit Coordination and Submittal

Cardno ENTRIX proposes to include as part of this task, Lake County WDP and CWA Section 401/404 Permit preparation and submittal. This includes an on-site meeting and/or a pre-application meeting with Civiltech, LCPB&D, and USACE. Cardno ENTRIX will prepare the permit applications and will request information, signatures, and fees necessary for a complete initial WDP to LCPB&D and CWA Section 401/404 to USACE. Permitting fees have not been included in this proposal and are the responsibility of Civiltech and/or LCDOT. However, Cardno ENTRIX will discuss any appropriate fees with Civiltech prior to permit submittals. Cardno ENTRIX will communicate with LCPB&D and USACE after the initial permit submittals until initial WDP and CWA Section 401/404 comments or approval are received, or for up to 120 days from the time of submittal. This task includes one subsequent submittal to LCPB&D and the USACE. Additional re-submittals are included under Task 4 – LCPB&D and USACE Permit Re-Submittal.

Wetland mitigation banking coordination with LCPB&D, the USACE, and an appropriate wetland banker is included in this task. However, wetland mitigation design, plan preparation, monitoring, and management are not included in this scope of work. Should the LCPB&D and the USACE require mitigation other than mitigation banking, ENTRIX will coordinate with Civiltech with regard to the mitigation requirements necessary to obtain the appropriate wetland mitigation related permits. All fees associated with obtaining wetland banking credits are not included in this scope of work and are the responsibility of Civiltech and/or LCDOT.

### Task 2 - Tree Survey Report

Cardno ENTRIX proposes to conduct an on-site tree investigation and to prepare a comprehensive Tree Survey Report for the Fairfield/IL Route 176 Project. The on-site investigation includes a survey of all trees four (4) inches or greater dbh (diameter at breast height) within 100 feet of the proposed bikepath alignment and stormwater detention areas as presented by Civiltech to Cardno ENTRIX on December 13th, 2010. Cardno ENTRIX understands that Civiltech will provide survey of all tree locations to be analyzed, and that an AutoCAD version file

of that survey will be provided to Cardno ENTRIX for use in the Tree Survey Report. Cardno ENTRIX will determine the species, diameter, approximate height, and overall condition of each surveyed tree. The overall condition rating will be determined from a comprehensive tree defect checklist that identifies characteristics such as cankers, deadwood, decay, and disease. All findings of this investigation will be included in a Tree Survey Report. Four (4) copies of the Tree Survey Report and a .pdf format file will be forwarded to Civiltech for review and distribution.

**Task 3 - Preliminary Environmental Site Assessment (PESA)**

Cardno ENTRIX proposes to complete the Fairfield/IL Route 176 Project PESA under four (4) work items. These work items are necessary to identify recognized environmental conditions (RECs) and/or historical RECs. As part of the PESA, Cardno ENTRIX proposes to identify RECs that may exist from current or past uses of properties in or adjacent to determine Areas of Concern (AOC). Cardno ENTRIX proposes to complete the PESA process in accordance with BLR&S guidance, as well as the All Appropriate Inquires (AAI) guidance, and the appropriate portions of the Illinois State Geological Survey and IDOT supported "A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects". Cardno ENTRIX assumes that current owners of AOC properties will be available and cooperative in providing full disclosure about any known environmental matters/concerns about the AOCs or adjacent properties.

*Work Item 1: Records Review*

Cardno ENTRIX first proposes to conduct a Records Review as part of Work Item 1. This review is intended to collect detailed information relevant to the AOCs and adjacent sites for the purpose of identifying RECs and/or historical RECs in connection with the Project Corridor. Records will be obtained from reasonably ascertainable and standard sources, including:

- Federal Agency databases (NPL Site List, RCRA CORRACTS, and non-CORRACTS TSD Lists);
- State Agency databases (State-sponsored Priority Sites List, Registered USTs, and Leaking USTs Lists);
- Local Agency records (landfill and solid waste disposal sites, public wells, registered USTs, zoning maps);
- Aerial photographs;
- Fire insurance maps;
- Records of Environmental Liens; and
- Title Records (if warranted).

*Work Item 2: Site Reconnaissance*

Cardno ENTRIX proposes to conduct a Site Reconnaissance as part of Work Item 2. The Site Reconnaissance will include a complete inspection of the AOCs and the site features. Although the site inspection will focus on the AOC sites, adjacent properties and the surrounding area will be assessed with respect to RECs and/or historical RECs that could possibly affect the AOC sites. Photographic documentation of the AOC sites and any observed RECs will be provided and included in the PESA Report. Cardno ENTRIX assumes that either the owner or an owner's representative with knowledge of the history and workings of the AOC sites and structures will accompany Cardno ENTRIX to the sites for the Site Reconnaissance.

*Work Item 3: Interviews*

Cardno ENTRIX proposes to conduct Interviews as part of Work Item 3. These Interviews will be conducted with owners of the AOC sites to confirm or refute the information obtained from the Records Review. At a minimum, a

key manager or individual with good knowledge of the uses and physical characteristics of the property should be interviewed. Owners or occupants may provide information that would be identified as a REC that is not available in the records (e.g. historical "unrecorded" waste disposal practices conducted on-site or at neighboring facilities). Cardno ENTRIX assumes that the owner or owner's representative will satisfy this objective.

Cardno ENTRIX will work with the designated individual(s) to coordinate the personal interviews while on-site for the Site Reconnaissance component of this Work Item. If personal interviews are not possible, Cardno ENTRIX will conduct the interview over the phone or submit requests in writing. Regardless of the method used, the following information, if applicable, will be requested prior to the interview:

- Environmental Audit Reports;
- Environmental Site Assessment Reports;
- Environmental Permits;
- Local geological conditions;
- Current and historic waste disposal practices;
- Drinking water test results;
- Septic system maintenance records; and
- Any other applicable aspects or information.

Local government officials who are responsible for USTs and/or hazardous material storage and waste disposal will be contacted. The questions asked of the local officials are aimed at gaining a better insight into the current and past uses of the AOC sites and adjacent properties.

*Work Item 4: PESA Report*

Cardno ENTRIX proposes to prepare a comprehensive PESA Report as the final work item under this Task. This PESA Report will summarize the information obtained from the three (3) preceding work items of this Task, disclose all information regarding RECs and historical RECs, and provide opinions and recommendations regarding the RECs and historical RECs. The PESA Report will contain all information gathered during the investigation and will designate all potential AOCs with a PESA Risk Findings designation in accordance with the BLR&S methodology. Cardno ENTRIX will prepare and submit a draft PESA Report to Civiltech for review. Cardno ENTRIX will incorporate Civiltech's comments and submit a final PESA Report to Civiltech for use and distribution.

**Task 4 - LCPB&D and USACE Permit Re-Submittal**

Cardno ENTRIX proposes that the services under this task include coordination with Civiltech, LCPB&D, and USACE with regard to wetland permit comments received from LCPB&D and the USACE as a result of a first permit re-submittal under Task 1. The services under this task include permit coordination and submittal for one subsequent re-submittal. Cardno ENTRIX will not proceed with subsequent wetland permit submittals unless authorized by Civiltech. Cardno ENTRIX will coordinate with the appropriate agencies, and prepare and submit the appropriate permit applications to LCPB&D and the USACE as necessary. Re-submittal fees are the responsibility of the Civiltech and/or LCDOT.

## PROJECT TEAM

Cardno ENTRIX proposes to manage this project out of the Barrington, Illinois office with personnel who have significant experience in conducting wetland permitting, tree surveys, and preliminary environmental site assessments. Mr. Barry Stuedemann, P.E., PWS will serve as Project Manager and Wetland Scientist, Mr. Jeff Mengler will serve as the Senior Project Scientist and Botanist, and Mr. Brandon Kinter, P.E. will serve as Staff Engineer. Cardno ENTRIX has many qualified environmental professionals available to support this effort, including Cardno JFNew staff and Cardno ERI staff that will assist in completing the proposed tasks outlined in this scope of work.

## PROJECT SCHEDULE

Cardno ENTRIX will commence work on the tasks presented in the scope of work immediately upon authorization to proceed from Civiltech on a per task basis. Cardno ENTRIX, will only proceed with each specific task as authorized by Civiltech. The schedule to complete the tasks are influenced by the responses, concerns, and requests of Civiltech, the concerning agencies, and the assumptions outlined in the above scope of work. The PESA schedule will likely be influenced by the duration of the Freedom of Information Act (FOIA) process. If FOIA information is not available at the time when the report is scheduled for submittal, Cardno ENTRIX will contact Civiltech to coordinate an appropriate submittal level and date.

## PROJECT COSTS

Cardno ENTRIX estimates the cost to complete tasks outlined in this proposal to be a maximum "not-to-exceed" fee of $27,923. A summary of these costs is as follows:

| | |
|---|---|
| Task 1 - LCPB&D and USACE Permit Coordination and Submittal | $7,947 |
| Task 2 - Tree Survey Report | $7,694 |
| Task 3 - Preliminary Environmental Site Assessment (PESA) | $8,344 |
| Task 4 - LCPB&D and USACE Permit Re-Submittal | $3,938 |
| **Total:** | **$27,923** |

An itemization of these costs is presented in Table 1, Cost Estimate for Consulting Services. Cardno ENTRIX will not proceed with each task without written authorization from Civiltech. Cardno ENTRIX will bill Civiltech on a time and material basis in accordance with the Client Agreement between ENTRIX and Civiltech, dated February 18,

Cardno ENTRIX
Shaping the Future

2008, and will not exceed the estimated costs presented in this proposal without written authorization from Civiltech.

**PROPOSAL ACCEPTANCE**

To indicate your acceptance of this proposal, please sign the attached Task Order and e-mail or fax back to our office at 847-381-6679 as our authorization to proceed. Cardno ENTRIX appreciates this opportunity to present environmental services to Civiltech. If you have any questions, please do not hesitate to contact me at 847-277-2850.

Sincerely,

Baron H. Stuedemann, P.E., PWS
Senior Consultant / Wetlands Specialist
for Cardno ENTRIX
Direct Line: 847-277-2866
Email: baron.stuedemann@cardno.com

**TABLE 1**
**Cost Estimate for Consulting Services**

**ENVIRONMENTAL SERVICES**
**FAIRFIELD ROAD AND IL ROUTE 176 INTERSECTION IMPROVEMENTS**

**Prepared for Civiltech Engineering, Inc.**
**Prepared by Cardno ENTRIX**

**December 22, 2010**

| FAIRFIELD / IL ROUTE 176 PROJECT ENVIRONMENTAL SERVICES WORK ITEM DESCRIPTION | PROJECT MANAGER | PROJECT SCIENTIST | STAFF ENGINEER | STAFF SCIENTIST | ADMIN. ASSISTANT | TOTAL HOURS | TOTAL LABOR COSTS | TOTAL DIRECT COSTS* | NOT-TO-EXCEED COSTS |
|---|---|---|---|---|---|---|---|---|---|
| **Task 1 - LCPB&D and USACE Permit Coordination and Submittal** | 26 | 12 | 2 | 8 | 12 | 60 | $7,747 | $200 | $7,947 |
| **Task 2 - Tree Survey Report** | 12 | 24 | 0 | 24 | 8 | 68 | $7,494 | $200 | $7,694 |
| **Task 3 - Preliminary Environmental Site Assessment (PESA)** | 16 | 0 | 48 | 0 | 8 | 72 | $7,444 | $900 | $8,344 |
| **Task 4 - LCPB&D and USACE Permit Re-Submittal** | 12 | 8 | 0 | 0 | 8 | 28 | $3,738 | $200 | $3,938 |
| **TOTAL:** | **66** | **44** | **50** | **32** | **36** | **228** | **$26,423** | **$1,500** | **$27,923** |

* EDR = $700; Mileage = $100; Deliveries = $500; Copies = $200

# CONSULTANT TASK ORDER

Task Order No.: 1
Date: December 22, 2010
Cardno ENTRIX Project No.:

Civiltech Engineering, Inc.
450 East Devon Avenue, Suite 300
Itasca, IL 60143

Attn: David J. Kreeger, P.E.
Project Manager

## Fairfield Road and IL Route 176 Intersection Improvements
## Unincorporated Lake County, Illinois

This Task Order No. 1 is issued pursuant to our Agreement dated December 22, 2010 and unless otherwise specified herein, the performance of services hereunder and the payment therefore shall be subject to the terms and conditions of said Agreement. The services authorized hereunder are described below.

**DESCRIPTION OF SERVICES:** LCPB&D and USACE Permit Coordination and Submittal

**BILLING PROCEDURES:** Monthly

**TOTAL COST (NOT TO EXCEED):** $7,947 (Maximum Not-to-Exceed)

**ESTIMATE OF TIME SCHEDULE:** Starting Date: January 1, 2011
Completion Date: December 31, 2011

**CARDNO ENTRIX'S REPRESENTATIVE:** Baron H. Stuedemann, P.E., PWS

**CONSULTANT'S REPRESENTATIVE:** David J. Kreeger, P.E.

ACCEPTED:

| **Cardno ENTRIX** | Civiltech Engineering, Inc. |
|---|---|
| By: _____ | By: _____ |
| Title: _____ | Title: _____ |
| Date: _____ | Date: _____ |

# CONSULTANT TASK ORDER

Task Order No.: 2
Date: December 22, 2010
Cardno ENTRIX Project No.:

Civiltech Engineering, Inc.
450 East Devon Avenue, Suite 300
Itasca, IL 60143

Attn: David J. Kreeger, P.E.
Project Manager

## Fairfield Road and IL Route 176 Intersection Improvements
## Unincorporated Lake County, Illinois

This Task Order No. 2 is issued pursuant to our Agreement dated December 22, 2010 and unless otherwise specified herein, the performance of services hereunder and the payment therefore shall be subject to the terms and conditions of said Agreement. The services authorized hereunder are described below.

**DESCRIPTION OF SERVICES:** Tree Survey Report

**BILLING PROCEDURES:** Monthly

**TOTAL COST (NOT TO EXCEED):** $7,694 (Maximum Not-to-Exceed)

**ESTIMATE OF TIME SCHEDULE:** Starting Date: January 1, 2011
Completion Date: December 31, 2011

**CARDNO ENTRIX'S REPRESENTATIVE:** Baron H. Stuedemann, P.E., PWS

**CONSULTANT'S REPRESENTATIVE:** David J. Kreeger, P.E.

ACCEPTED:

**Cardno ENTRIX**

By: _____

Title: _____

Date: _____

Civiltech Engineering, Inc.

By: _____

Title: _____

Date: _____

# CONSULTANT TASK ORDER

Task Order No.: 3
Date: December 22, 2010
Cardno ENTRIX Project No.:

Civiltech Engineering, Inc.
450 East Devon Avenue, Suite 300
Itasca, IL 60143

Attn: David J. Kreeger, P.E.
Project Manager

## Fairfield Road and IL Route 176 Intersection Improvements
## Unincorporated Lake County, Illinois

This Task Order No. 3 is issued pursuant to our Agreement dated December 22, 2010 and unless otherwise specified herein, the performance of services hereunder and the payment therefore shall be subject to the terms and conditions of said Agreement. The services authorized hereunder are described below.

**DESCRIPTION OF SERVICES:** Preliminary Environmental Site Assessment (PESA)

**BILLING PROCEDURES:** Monthly

**TOTAL COST (NOT TO EXCEED):** $8,344 (Maximum Not-to-Exceed)

**ESTIMATE OF TIME SCHEDULE:** Starting Date: January 1, 2011
Completion Date: December 31, 2011

**CARDNO ENTRIX'S REPRESENTATIVE:** Baron H. Stuedemann, P.E., PWS

**CONSULTANT'S REPRESENTATIVE:** David J. Kreeger, P.E.

ACCEPTED:

| **Cardno ENTRIX** | Civiltech Engineering, Inc. |
|---|---|
| By: _____ | By: _____ |
| Title: _____ | Title: _____ |
| Date: _____ | Date: _____ |

# CONSULTANT TASK ORDER

Task Order No.: 4
Date: December 22, 2010
Cardno ENTRIX Project No.:

Civiltech Engineering, Inc.
450 East Devon Avenue, Suite 300
Itasca, IL 60143

Attn: David J. Kreeger, P.E.
Project Manager

## Fairfield Road and IL Route 176 Intersection Improvements
## Unincorporated Lake County, Illinois

This Task Order No. 4 is issued pursuant to our Agreement dated December 22, 2010 and unless otherwise specified herein, the performance of services hereunder and the payment therefore shall be subject to the terms and conditions of said Agreement. The services authorized hereunder are described below.

**DESCRIPTION OF SERVICES:** LCPB&D and USACE Permit Re-Submittal

**BILLING PROCEDURES:** Monthly

**TOTAL COST (NOT TO EXCEED):** $3,938 (Maximum Not-to-Exceed)

**ESTIMATE OF TIME SCHEDULE:** Starting Date: January 1, 2011
Completion Date: December 31, 2011

**CARDNO ENTRIX'S REPRESENTATIVE:** Baron H. Stuedemann, P.E., PWS

**CONSULTANT'S REPRESENTATIVE:** David J. Kreeger, P.E.

ACCEPTED:

| **Cardno ENTRIX** | Civiltech Engineering, Inc. |
|---|---|
| By: _____ | By: _____ |
| Title: _____ | Title: _____ |
| Date: _____ | Date: _____ |

**ATTACHMENT E**

**Subconsultant Proposal**

**Jorgensen and Associates, Inc.**
**(Plat of Highways)**

**JORGENSEN & ASSOCIATES, INC.**
**CONSTRUCTION and LAND SURVEYORS**
*Est. 1990*

December 22, 2010

Mr. David J. Kreeger, P.E.
Civiltech Engineering, Inc.
450 East Devon Avenue
Suite 300
Itasca, Illinois 60143

Re: Fairfield Road and Illinois Route 176 Survey Proposal

Dear Mr. Kreeger:

Enclosed, please find our proposal to prepare a supplemental topographic survey, a statutory plat of highways with legal descriptions for the grade improvement, the grade separated improvement and the topographic survey for the new bike trail, all as contained in your email of December 13th, concerning the referenced project.

I would like to thank you for considering Jorgensen & Associates for this project. We look forward to continuing our working relationship with your firm. Should you have any questions, comments or require any further information concerning our proposal, please feel free to call me at (847)356-3371.

Respectfully submitted,
Jorgensen & Associates, Inc.

Christian H. Jorgensen, P.L.S.
President

CHJ/pt

Enclosures

E:\Civiltech\Lake\Fairfield Rd\LTR

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Exhibit "A"**

Hourly Rate Range - Consultant's Regular Staff

| Classification | From | To |
|---|---|---|
| Principal, Manager, P.L.S. | 39.00 | 41.00 |
| Supervisor, Project Surveyor | 38.00 | 40.00 |
| Cadd Supervisor, Survey Party Chief | 21.00 | 26.00 |
| Instrument Operator, Cadd Operator, assignable Clerical and Secretarial Labor | 14.00 | 19.00 |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Exhibit "B"**

Payroll Burden & Fringe Costs

| | % of Direct Productive Payroll |
|---|---|
| Federal Insurance Contributions Act | 10.90% |
| State Unemployment Compensation | 0.24% |
| Federal Unemployment Compensation | 0.20% |
| Workmen's Compensation Insurance | 0.94% |
| Paid Holidays, Vacation, Sick Leave, Personal Leave | 9.24% |
| Bonus | 3.58% |
| Pension | 0.54% |
| Group Insurance | 24.68% |
| Total Payroll Burden & Fringe Costs | 50.32% |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Exhibit "C"**

Overhead and Indirect Costs

| | % of Direct Productive Payroll |
|---|---|
| Business Insurance | 4.19% |
| Depreciation | 8.09% |
| Indirect wages and salaries | 29.66% |
| Reproductive and printing costs | 0.06% |
| Office Supplies | 1.93% |
| Computer Costs | 0.16% |
| Professional Fees | 1.01% |
| Telephone | 1.27% |
| Fees, license & dues | 1.14% |
| Repairs and maintenance | 0.37% |
| Business space rent | 3.60% |
| Facilities - capital | 1.17% |
| Recruiting | 0.27% |
| Survey Supplies | 3.08% |
| Automobile/travel expense | 0.43% |
| Equipment Rental | 0.67% |
| Miscellaneous Expense | 1.07% |
| State Income Tax | 0.58% |
| Postage | 0.24% |
| Total Overhead | 58.99% |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**PLAT OF HIGHWAYS**
**At Grade Improvement**
**Exhibit "D"**

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief

D. Instrument Operator

E. Cadd Supervisor

F. Secretarial

Classification Rates used for Calculation of Fee

**A. Principal/Officer ..... $ 40.00**
**B. Supervisor, P.L.S. ..... $ 39.00**
**C. Survey Party Chief ..... $ 21.50**
**D. Instrument Operator ..... $ 17.00**
**E. Cadd Supervisor ..... $ 25.50**
**F. Secretarial ..... $ 16.50**

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**PLAT OF HIGHWAYS**
**At Grade Improvement**
**Exhibit "D"**

Average Hourly Rate Calculation

Sheet 2 of 2

| | | | | | |
|---|---|---|---|---|---|
| Principal/Officer | 2 hours | @ | $40.00/hour | = | $ 80.00 |
| Supervisor, P.L.S. | 216 hours | @ | $39.00/hour | = | $ 8,424.00 |
| Survey Party Chief | 170 hours | @ | $21.50/hour | = | $ 3,655.00 |
| Instrument Operator | 170 hours | @ | $17.00/hour | = | $ 2,890.00 |
| Cadd Supervisor | 409 hours | @ | $25.50/hour | = | $ 10,429.50 |
| Secretarial | 4 hours | @ | $16.50/hour | = | $ 66.00 |
| | 971 hours | | | | $ 25,544.50 |

$$\text{Average Hourly Rate} = \frac{\$25,544.50}{971} = \$26.31/\text{hour}$$

Route: Fairfield Road
Section: @ Illinois Route 176
Project: At Grade Improvement
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: December 21, 2010
No. of Parcels: 5

| Item | Number of Man Hours (A) | Payroll (B) | Overhead & Fringe Benefits (C) | In-house Direct Costs (D) | Sub-Total (E) | Profit (F) | Services By Others | Total | Percent of Grand Total |
|---|---|---|---|---|---|---|---|---|---|
| 1) Pre-Survey Phase | 6 | $144.00 | $157.41 | $65.00 | $366.41 | $59.54 | $1,500.00 | $1,925.94 | 2.97% |
| 2) Survey Reconnaissance | 12 | $231.00 | $252.51 | $0.00 | $483.51 | $80.39 | N/A | $563.89 | 0.87% |
| 3) Project Survey Plan | 5 | $127.50 | $139.37 | $0.00 | $266.87 | $44.37 | N/A | $311.24 | 0.48% |
| 4) First Submittal Plat of Highways and Descriptions | 477 | $13,851.00 | $15,140.53 | $120.00 | $29,111.53 | $4,837.55 | N/A | $33,949.08 | 52.39% |
| 5) Survey (Field) | 328 | $6,314.00 | $6,901.83 | $367.50 | $13,583.33 | $2,250.56 | N/A | $15,833.89 | 24.43% |
| 6) Survey (Office) | 83 | $3,061.50 | $3,346.53 | $0.00 | $6,408.03 | $1,065.40 | N/A | $7,473.43 | 11.53% |
| 7) Final Submittal Plat of Highways and Descriptions | 58 | $1,735.50 | $1,897.08 | $240.00 | $3,872.58 | $638.75 | N/A | $4,511.33 | 6.96% |
| 8) Coordination Meetings | 2 | $80.00 | $87.45 | $35.00 | $202.45 | $32.92 | N/A | $235.36 | 0.36% |
| TOTALS | 971 | $25,544.50 | $27,922.69 | $827.50 | $54,294.69 | $9,009.47 | $1,500.00 | $64,804.17 | 100.00% |

Route : Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.

**Manhour Breakdown**
**Land Acquisition Estimate**
**At Grade Improvement**

Length of Project

| | |
|---|---|
| Illinois Route 176 | ± 4,300' = 0.814 mile |
| Fairfield Road | + 3,700' = 0.701 mile |
| Total Length | ± 8,000' = 1.515 miles |

5 Parcels: 1 Fee Simple & Temporary Easement A, B, C, D & E, 1 Fee Simple & Temporary Easement A, B, C & D, 1 Fee Simple & Temporary Easement A, B & C, 1 Fee Simple & Temporary Easement A & B and 1 Temporary Easement Only.

1. Pre-Survey Phase
   Research available records

| | | | | |
|---|---|---|---|---|
| a. | Title Co. | ) | 1 man | 5 MH |
| b. | Recorder's Office | ) | | |
| c. | I.D.O.T. | ) | | |
| d. | Utilities | ) | | |
| e. | Private Surveyors | ) | | |
| f. | Land Owners | ) | 1 man | 1 MH |
| | | | Sub-total Item # 1 | 6 MH |

2. Reconnaissance Survey — 2 Men — 12 MH

| | | | | | |
|---|---|---|---|---|---|
| 3. | Project Survey Plan | | | ± 2,640'/sheet - 5 sheets | |
| | a. | Alignment info | ) | | |
| | | | ) | | |
| | b. | Existing R.O.W. info | ) | | |
| | | | ) | | |
| | c. | Land line data | ) | | |
| | | | ) | | |
| | d. | Subdivision data | ) | 1.0 hr./sht. x 5 = | 5 MH |
| | | | | Sub-total Item #3 | 5 MH |
| 4. | First Submittal Plat of Highways & Descriptions | | | | |
| | a. | Ownership info | ) | | |
| | | | ) | | |
| | b. | Total holding boundaries | ) | | |
| | | | ) | | |
| | c. | Total holding area listing | ) | | 4 MH |
| | | | ) | | |
| | d. | Private survey info | ) | | |
| | | | ) | | |
| | e. | Deed calculated closures | ) | | |
| | f. | Layout and drafting | | 16 hrs./sheet x 20 | 320 MH |
| | | Total Holding sheets | | 8 hrs./sheet x 4 = | 32 MH |
| | g. | Check plats | | | 82 MH |
| | h. | Legal descriptions | | 19 descriptions | 27 MH |
| | i. | Check legal descriptions | | | 12 MH |
| | | | | Sub-total Item #4 | 477 MH |

5. Survey (Field)

a. Center line alignments & ties

| | | | | | |
|---|---|---|---|---|---|
| Illinois Route 176 | - | 4,300' | - | 12 hrs. x 2 men = | 24 MH |
| Fairfield Road | - | 3,700' | - | 16 hrs. x 2 men = | 32 MH |

b. Measure property & section lines
58 hours x 2 men = 116 MH

c. Appraisal topography
20 hours x 2 men = 40 MH

d. Monument & tie proposed right of way
58 hours x 2 men = 116 MH

Sub-total Item #5 328 MH

6. Survey (Office)

a. Compute traverse
8 hours x 1 man = 8 MH

b. Compute section lines & property boundaries
48 hours x 1 man = 48 MH

c. Compile appraisal topography
5 hours x 1 man = 5 MH

d. Compute center line alignments
2 hours x 1 man = 2 MH

e. Compute proposed right of way & temporary easements
20 hours x 1 man = 20 MH

Sub-total Item #6 83 MH

7. Final Submittal Plat of Highways & Descriptions

| | | | |
|---|---|---|---|
| a. | Final drafting ± 24 sheets<br>1 hr./sheet x 24 = | | 24 MH |
| b. | Prepare & record "Monument Record"<br>5 Monument Records @ 2 hrs. each = | | 10 MH |
| c. | Plat checking<br>24 sheets | | 12 MH |
| d. | Final descriptions 19 descriptions | | 6 MH |
| e. | Check final descriptions | | 3 MH |
| f. | Assembly of final papers | | 3 MH |
| | | Sub-total Item #7 | 58 MH |

8. Coordination Meetings

| | | |
|---|---|---|
| 1 meeting @ 2 hrs. = | | 2 MH |
| | Total All Items | 971 MH |

| | | | | |
|---|---|---|---|---|
| 3. | Project Survey Plan | | ± 2,640'/sheet - 5 sheets | |
| | a. | Alignment info ) | | |
| | b. | Existing R.O.W. info ) | | |
| | c. | Land line data ) | | |
| | d. | Subdivision data ) | 1.0 hr./sht. x 5 = | 5 MH |
| | | | Sub-total Item #3 | 5 MH |
| 4. | First Submittal Plat of Highways & Descriptions | | | |
| | a. | Ownership info ) | | |
| | b. | Total holding boundaries ) | | |
| | c. | Total holding area listing ) | | 4 MH |
| | d. | Private survey info ) | | |
| | e. | Deed calculated closures ) | | |
| | f. | Layout and drafting | 16 hrs./sheet x 20 | 320 MH |
| | | Total Holding sheets | 8 hrs./sheet x 4 = | 32 MH |
| | g. | Check plats | | 82 MH |
| | h. | Legal descriptions | 18 descriptions | 27 MH |
| | i. | Check legal descriptions | | 12 MH |
| | | | Sub-total Item #4 | 477 MH |

5. Survey (Field)

a. Center line alignments & ties

| | | | | |
|---|---|---|---|---|
| Illinois Route 176 | - | 4,300' | - 12 hrs. x 2 men = | 24 MH |
| Fairfield Road | - | 3,700' | - 16 hrs. x 2 men = | 32 MH |

b. Measure property & section lines
58 hours x 2 men = 116 MH

c. Appraisal topography
20 hours x 2 men = 40 MH

d. Monument & tie proposed right of way
58 hours x 2 men = 116 MH

Sub-total Item #5 328 MH

6. Survey (Office)

a. Compute traverse
8 hours x 1 man = 8 MH

b. Compute section lines & property boundaries
48 hours x 1 man = 48 MH

c. Compile appraisal topography
5 hours x 1 man = 5 MH

d. Compute center line alignments
2 hours x 1 man = 2 MH

e. Compute proposed right of way & temporary easements
20 hours x 1 man = 20 MH

Sub-total Item #6 83 MH

7. Final Submittal Plat of Highways & Descriptions

| | | | |
|---|---|---|---|
| a. | Final drafting ± 24 sheets<br>1 hr./sheet x 24 = | | 24 MH |
| b. | Prepare & record "Monument Record"<br>5 Monument Records @ 2 hrs. each = | | 10 MH |
| c. | Plat checking<br>24 sheets | | 12 MH |
| d. | Final descriptions 18 descriptions | | 6 MH |
| e. | Check final descriptions | | 3 MH |
| f. | Assembly of final papers | | 3 MH |
| | | Sub-total Item #7 | 58 MH |

8. Coordination Meetings

| | | |
|---|---|---|
| 1 meeting @ 2 hrs. = | | 2 MH |
| | Total All Items | 971 MH |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Manhour Breakdown By Item**
**At Grade Improvement**

| Item | Classification | Manhours |
|---|---|---|
| 1) Pre-Survey | Cadd Supervisor | 5 |
| | Secretarial | 1 |
| 2) Survey Reconnaissance | Survey Party Chief | 6 |
| | Instrument Operator | 6 |
| 3) Project Survey Plan | Cadd Supervisor | 5 |
| 4) First Submittal Plat of Highways | Supervisor, P.L.S. | 125 |
| | Cadd Supervisor | 352 |
| 5) Survey (Field) | Survey Party Chief | 164 |
| | Instrument Operator | 164 |
| 6) Survey (Office) | Supervisor, P.L.S. | 70 |
| | Cadd Supervisor | 13 |
| 7) Final Submittal Plat of Highways | Supervisor, P.L.S. | 21 |
| | Cadd Supervisor | 34 |
| | Secretarial | 3 |
| 8) Coordination Meetings | Principal/Officer | 2 |

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Breakdown of**
**In House Direct Costs**
**At Grade Improvement**

Item

1. Pre-Survey Phase

a. Trip to Recorder's Office - 1 ea.
± 30 miles/trip x 1 trip = ± 30 miles
± 30 miles @ $0.50/mile = $ 15.00

b. Miscellaneous Records from Recorder's Office $ 50.00

Sub-total Item #1 $ 65.00

4. First Submittal Plat of Highways & Descriptions

a. Plat of Highways Mylars
24 sheets @ $5.00/sheet = $ 120.00

5. Survey (Field)

a. Trips to project site - 21 ea.
± 35 miles/trip x 21 trips = ± 735 miles
± 735 miles @ $0.50/mile = $ 367.50

7. Final Submittal Plat of Highways & Descriptions

a. Trip to Recorder's Office – 1 ea.
± 30 miles/trip x 1 trip = ± 30 miles
± 30 miles @ $0.50/mile = $ 15.00

b. Record "Monument Record"
5 each @ $39.00 = $ 195.00

c. Deliver Final Mylars to I.D.O.T.
± 60 miles/trip x 1 trip = ± 60 miles
± 60 miles @ $0.50/mile = $ 30.00

Sub-total Item #7 $ 240.00

8. Coordination Meetings

a. Meetings at Civiltech office – 1 ea.
± 70 miles/trip x 1 trip = ± 70 miles
± 70 miles @ $0.50/mile = $ 35.00

Total All Items $ 827.50

Route: Fairfield Road
Section: @ Illinois Route 176
County: Lake
Job No.:

**Breakdown of**
**Services By Others**
**At Grade Improvement**

Item

1. Pre-Survey Phase

    a. Commitment for Title Insurance Letters
    5 Letters @ $300.00 each = $ 1,500.00

**ATTACHMENT F**

**Subconsultant Proposal**

**T Engineering**
**(Review Appraisals)**

"T" Engineering Services, Ltd.
real estate appraisers

January 5, 2011

Mr. Dave White
Civiltech Engineering, Inc.
450 E. Devon Ave., Suite 300
Itasca, Illinois 60143

*Subject:* *Proposal for Review Appraisal Services*
*Fairfield / Route 176*

Dear Mr. White:

We have experience in working for governmental agencies and participation in eminent domain proceedings: appraisal reviews, depositions, court testimony etc.; and have the ability to work closely with attorneys. We have familiarity with the Fairfield/ Route 176 area, development patterns, and trends. Also we have the ability to work concurrently on numerous projects.

We propose to review appraisal reports on the subject project at $800 per parcel with the client being Civiltech Engineering, Inc. The appraisal reviews will be completed within two weeks after receiving the subject appraisal reports.

Respectfully submitted,

Keith T. Tadrowski
President

3500 w. peterson ave., suite 404 | chicago il 60659 | t 773-866-9750 | f 773-866-9723

**ATTACHMENT F**

**Subconsultant Proposal**

**Santacruz Associates**
**(ROW Negotiations)**

# Santacruz Associates

## Land Acquisition Services for
## Civiltech Engineering
## Intersection of Fairfield Road and IL 176

### SCOPE OF SERVICES

Santacruz Associates Ltd. ("SANTACRUZ") shall perform all necessary services to negotiate and acquire the right-of-way required for the construction of the **intersection of Fairfield Road and IL 176** (the "**Project**"). Said land acquisition services shall be provided by SANTACRUZ as a subcontractor to **Civiltech Engineering, Inc.** (**Civiltech**), for the benefit of the **County of Lake** (**Lake County**). All such services shall be performed in accordance with the Illinois Department of Transportation (IDOT) Land Acquisition Policies and Procedures Manual (the "Manual") and the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended (the "Act"), as well as any policies or procedures of **Lake County**.

### TECHNICAL APPROACH TO THE WORK

SANTACRUZ will act as the Land Acquisition Agent working with **Civiltech** and **Lake County**, to complete the land negotiation and acquisition services. **SANTACRUZ** will review the highway construction plans with **Civiltech** and **Lake County** to understand the nature and purpose of the Project. The coordination of the services under this proposal shall be the responsibility of J. Steve Santacruz, President of SANTACRUZ.

SANTACRUZ agrees to perform the services as set forth herein as well as furnish and deliver to **Lake County** all necessary documents, including recorded conveyance documents and other forms and documents required by **Lake County** to evidence the acquisition of the right-of-way or, in the alternative, the information necessary for **Lake County** to undertake eminent domain proceedings in order to acquire the right-of-way. More specifically, SANTACRUZ will provide the following services:

1. Negotiation in order to facilitate the acquisition of the right of way parcels. If negotiations fail or are terminated for any other reason (e.g., missing property owner or title exceptions which cannot be removed), SANTACRUZ shall make a recommendation to **Lake County** to acquire the right-of-way by means of eminent domain proceedings.

2. Preparation of deeds, grants of easements, releases, affidavits, receipts and all other documents necessary to properly acquire the needed parcels and those documents necessary to clear title in accordance with the policies and procedures of **Lake County** and IDOT.

3. Testimony in court by negotiator as a witness on behalf of **Lake County** during eminent domain trials to detail the negotiation process and communications with the property owner concerning the right-of-way.

4. Preparation and maintenance of timely, accurate parcel data information as required by **Lake County**.

5. Submission of all necessary documentation in order to obtain certification of the right-of-way acquisition process by IDOT.

SANTACRUZ will post the progress of the negotiation process on a parcel by parcel basis on its password protected Client-only access section of its website. Access will be provided to **Civiltech** and **Lake County** so that they can obtain regular updates on the status of negotiations for each parcel. The website can be visited at www.Santacruz-Associates.com.

**Negotiation and Acquisition Services**

All negotiations and acquisition services shall be provided by SANTACRUZ in accordance with Chapters 3 and 4 of the Manual and the Act and the policies of **Lake County** and IDOT. SANTACRUZ will make an offer to each property owner in the amount of just compensation established by the appraisal process and approved by **Lake County**. SANTACRUZ will not have any authority to increase the amounts or include other consideration to be paid to a property owner in acquisition of a parcel unless specifically directed in writing by **Lake County**.

Upon receipt of a counter offer from a property owner, SANTACRUZ will review the counter offer and any documentation provided by the property owner to support the counter offer. SANTACRUZ will forward the counter offer to the representative(s) of **Lake County** assigned for the purpose of evaluating counter offers. SANTACRUZ will provide a recommendation concerning the counter offer including any reasons in support of the recommendation. SANTACRUZ will consult with the assigned representative(s) of **Lake County** with respect to its response to the counter offer. Upon acceptance by **Lake County** of a counter offer, SANTACRUZ will prepare the necessary documentation to be executed by **Lake County** to formalize the settlement approved by **Lake County**. If a counter offer is rejected by **Lake County**, SANTACRUZ will communicate this to the property owner in writing providing the reason for the rejection of the counter offer. Thereafter, SANTACRUZ will immediately commence further negotiations with the property owner in an effort to reach a settlement.

SANTACRUZ will review the plat of highway and appraisals for each parcel before the start of negotiations with a property owner to understand the valuation determined by the appraisal process and to appreciate the impact to the property resulting from the Project. SANTACRUZ will also inspect the title commitment provided for each parcel to determine the liens and encumbrances that will need to be addressed in order to complete the acquisition process for **Lake County**. SANTACRUZ will direct any questions to **Civiltech** resulting from its review of the plans, plats, appraisals and title commitments so that SANTACRUZ is prepared for any issues raised by the property owner during negotiations.

Before contacting the owner of a parcel, SANTACRUZ will prepare an introductory letter to be sent by **Lake County** to each property owner informing them of the Project, the need for right-of-way from their property and our representation of **Lake County** concerning the Project. SANTACRUZ will also prepare an offer package for presentation to the owner at the first meeting. The offer package shall contain the offer, a copy of the plat of highway with the acquisition areas highlighted and a copy of the legal descriptions of the parcels to be acquired. SANTACRUZ will contact the property owner to schedule a meeting to review the offer package and the construction plans. SANTACRUZ will make repeated efforts to contact a property owner and will make all reasonable efforts to reach a settlement before recommending that **Lake County** commence condemnation proceedings. If, and only after repeated efforts to contact the property owner, SANTACRUZ is unable to make contact with the property owner, SANTACRUZ will send the offer package by certified mail so that a receipt of delivery can be established. All contacts and efforts to make contact with the property owner shall be documented by SANTACRUZ.

If, during its discussions with the property owner, errors in the plans are discovered or the property owner requests design changes, SANTACRUZ will immediately notify **Civiltech** and **Lake County** with this information. At any time during negotiations for situations involving design changes, errors in plans or for any other reason, if requested by **Civiltech** or **Lake County**, SANTACRUZ will cease negotiations on certain parcels until corrected information or further instruction is provided to SANTACRUZ.

Upon successful negotiations with the property owner, SANTACRUZ will prepare all necessary conveyance documents in order to complete the acquisition and obtain title approval for the property. SANTACRUZ will have all conveyance documents and title clearance documents it deems necessary recorded with the County Recorder's office where the parcel is situated. SANTACRUZ will submit all conveyance documents and title clearance documents to the title company responsible for preparing the title commitments requesting that it issue a title policy for all permanent acquisitions.

SANTACRUZ will submit a completed file for each parcel to **Lake County** with original conveyance documents, title clearance documents, the Negotiator's Log, Attorney Certification Letter, Parcel Compliance Checklist, copies of all correspondence with the property owner, title commitments, plats, and all other documentation as required by IDOT for right-of-way certification. If necessary, SANTACRUZ will also coordinate the Attorney Certification Letter with the attorney for **Lake County** as required by the IDOT for right-of-way certification of the land acquisition process. A copy of the entire file for each parcel will be given to **Lake County** at the completion of the job.

In the event that SANTACRUZ, after having made every reasonable effort to contact and negotiate with the owner of a parcel, is unable to obtain a settlement on the approved appraisal amount, SANTACRUZ shall prepare and submit to **Lake County** a recommendation that **Lake County** proceed with condemnation in order to acquire the right of way needed from such parcel. SANTACRUZ will prepare and provide to **Lake County** a file which will include the Negotiator's Log, copies of all correspondence with the property owner, title commitments, plats, and all other documentation concerning such parcel that will be required by **Lake County** to proceed with the filing of a condemnation lawsuit against the property owner. In the event

that SANTACRUZ submits a parcel to **Lake County** with the recommendation that acquisition be completed by means of a condemnation action, SANTACRUZ will continue to make additional efforts to acquire the parcel through settlement until the actual filing date of the petition for condemnation.

If necessary and requested by **Lake County** or **Civiltech**, SANTACRUZ will assist **Lake County** and its respective legal counsel in any litigation necessary to acquire a right-of-way parcel through condemnation. SANTACRUZ will cooperate in trial preparation and will provide testimony at depositions and trial as a witness on behalf of **Lake County** to attest to the negotiations being legally conducted in good faith and in accordance with the requirements of **Lake County**, IDOT, the Act and the Manual. Any trial preparation or testimony by SANTACRUZ shall be pursuant to a separate work order issued by **Civiltech** for which SANTACRUZ shall be entitled to additional compensation.

SANTACRUZ will also complete and coordinate the Project Compliance Checklist required by the IDOT for right-of-way certification of the land acquisition process.

SANTACRUZ shall be entitled to the full compensation for any parcel for which negotiation and acquisition services once assigned by **Civiltech** or **Lake County** but not completed if a parcel is eliminated by **Civiltech** or **Lake County** as a result of a redesign of the construction plans and cancellation of the Project.

## COMPENSATION

SANTACRUZ shall be entitled to the compensation as shown on the attached schedule. Our cost proposal is based on **five (5)** projected parcels of right-of-way.

SANTACRUZ shall invoice **Civiltech** for any fees and charges related to the acquisitions including, without limitation, (i) the cost of the later date title commitments, (ii) the cost of title insurance policies obtained on the parcels to be acquired, (iii) the cost of recording any necessary documents to complete the conveyance and obtain clear title, (iv) lender's fees related to the processing of any partial releases needed to provide clear title, and (v) land trustee processing fees. SANTACRUZ shall include **$500.00** per parcel for these charges. SANTACRUZ shall pay any such fees and charges in excess of the **$500.00** per parcel allowance for which SANTACRUZ shall be entitled to additional compensation in the amount of any such payments pursuant to a separate work order issued by **Civiltech**.

Based on the projected total number of parcels of right-of-way to be acquired for the Project, the land acquisition negotiation services provided herein are offered a cost not to exceed of **$13,000.00** as follows:

| | |
|---|---|
| Land Acquisition Services | **$10,500.00** |
| Direct Billable Expenses | **$2,500.00** |

## CERTIFICATIONS AS BUSINESS ENTERPRISE (BEP), MINORITY BUSINESS ENTERPRISE (MBE) AND DISADVANTAGED BUSINESS ENTERPRISE (DBE)

SANTACRUZ is certified in the Business Enterprise Program with the State of Illinois – Department of Central Management Services. SANTACRUZ is also certified as a Disadvantaged Business Enterprise by the State of Illinois – Department of Transportation and a Minority Business Enterprise by Cook County and the City of Chicago. As SANTACRUZ will supervise 100% of the Negotiation and Acquisition services, **Lake County** should meet or exceed any minimal BEP/DBE/MBE utilization goals established for the Project.

## COMPENSATION FOR SERVICES

| | |
|---|---|
| Negotiation and acquisition services for Right of Way including, without limitation, documentation of conveyance of property | $2,100.00 |

### Witness Services

| | |
|---|---|
| Rate for each ½ day in pretrial conference or in court for Negotiator | $1,000.00 |
| Hourly rate for consultation not otherwise specifically provided for herein | $250.00 |

### Title Services (if applicable)

| | |
|---|---|
| Later date commitment | $50.00 |
| + Administrative fee | $25.00 |
| Title insurance policies | $75.00 |
| + Additional costs of | $3.50 per thousand |
| + Administrative fee | $25.00 |
| Recording of Documents – In addition to actual recording costs | |
| + Administrative fee | $25.00 |
| Copies of recorded documents – In addition to actual copying costs | |
| + Research fee | $50.00 |
| + Administrative fee | $25.00 |