DRAFT

Municipality	LOCAL AGENCY	Illinois Department of Transportation	CONSULTANT	Name: Christopher B. Burke Engineering
Township				Address: 9575 West Higgins Road, Sute 600
County: Lake County – Division of Transportation		**Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds**		City: Rosemont, 60188
Section: 19-00034-07-RS 19-00248-03-GM				State: Illinois

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

Section Description

Name Deerfield Road Resurfacing/Deerfield Parkway Pavement Study

Route CH 11 Length 1.44 Mi. 7600.00 FT (Structure No. N/A)

Termini Saunders/Riverwoods Road to Wilmot Road / Krause Road to MIlwaukee Avenue

Description:
Phase II Engineering for: Deerfield Road including resurfacing, spot curb and gutter repairs, median improvements, drainage structure adjustments, and ADA improvements; Deerfield Parkway Pavement Study.

Agreement Provisions

The Engineer Agrees,

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

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

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

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

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

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

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

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

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

The LA Agrees,

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

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

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

Schedule for Percentages Based on Awarded Contract Cost

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

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

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

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

The Total Not-to-Exceed Contract Amount shall be $219,240.29

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

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

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

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

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

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

It is Mutually Agreed,

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

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

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

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

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

Executed by the LA:

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

ATTEST:

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

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

Executed by the ENGINEER:

_____
Engineering Firm

_____
Street Address

ATTEST:

_____
City, State

By _____

Title _____

By _____

Title _____

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

SCOPE OF SERVICES
PHASE II – DESIGN ENGINEERING SERVICES

Deerfield Road Resurfacing from Saunders/Riverwoods Road to Wilmot Road
Section No. 19-00034-07-RS

The design engineering project involves Deerfield Road from Saunders Road/Riverwoods Road as the west termini and Wilmot Road as the east termini located in the Village of Deerfield. Deerfield Road is under the jurisdiction of Lake County Division of Transportation (LCDOT). The project is anticipated to include pavement rehabilitation, reconstruction of intersection corner ramps to meet Public Right of Way Accessibility Guidelines (PROWAG), guardrail improvements and replacement of traffic signal controllers. The approximate project limits are as follows:

Deerfield Rd: 100' east of Riverwoods Rd (existing pavement joint) to eastern ROW of Wilmot Rd – 4,200 feet total length. The I-94 bridge is an omission.

The anticipated improvements within the project limits are as follows:

- Mill 2.25" and replace with 0.75" polymerized level binder and 1.5" HMA surface course
- Curb and gutter replacement as necessary based on field review of conditions
- Drainage structure adjustment as necessary
- Replace corrugated median with flush painted median
- Update guardrail and terminal to meet current LCDOT requirements
- Replace chain link fence on the south side of Deerfield Rd, west of the tollway with ornamental fence.
- The bike path checked for slope and any other issues.
- The retaining wall east of the bridge to be checked to make sure it is still not moving.
- The slab between the concrete wall and the road on the north side between the bike path tunnel and the bridge that is failing will be inspected and recommendations for repairs will be made.
- ADA curb ramp improvements at the following intersections:
  - Oakhurst Ln – 2 quadrants
  - Parkway North Boulevard – 4 quadrants
  - Castlewood Ln – 4 quadrants
  - Wilmot Rd – 4 quadrants
- Traffic signal updates including:
  - I 94 SB On-Ramp
    - Replace traffic signal controller
    - Replace UPS
    - Add new layer II switch
    - Terminate fiber
    - Replace loops with radar
    - Replace signal poles with combination signal and light poles
  - I 94 NB Off-Ramp
    - Replace traffic signal controller
    - Replace UPS
    - Replace loops with radar
    - Replace signal poles with combination signal and light poles

- Castlewood Ln
  - Replace traffic signal controller
  - Replace UPS
  - Update video detection
- Wilmot Rd
  - Replace traffic signal controller
  - Replace UPS
  - Update video detection
- Riverwoods Rd
  - Remove and replace wireless detection pods

- Replace pavement markings with grooved thermoplastic and recessed reflective markers

TASK 1 - DATA COLLECTION

The Consultant will request available existing roadway and traffic signal plans for review of existing conditions, the previous wall inspection/analysis report, and available curb ramp inspection. The Consultant will conduct two site visits to review project site and conduct plan review.

As part of the initial field review, CBBEL staff will preform an ADA assessment of the multi-use path. Deficiencies will be recorded and recommendations for repairs will be included in the plans.

The slab between the concrete wall and the road on the north side between the multi-use path tunnel and the bridge will also be visually inspected and recommendations for repairs will be presented to LCDOT.

The following items will be provided by CBBEL:

- Topographic survey
- Utility locations drawn in CADD

TASK 2 - TOPOGRAPHIC SURVEY FOR ADA RAMPS

The Topographic Survey of fourteen (14) street corner quadrants for ADA ramp design will be performed at Oakhurst Lane, Parkway North Blvd., Castlewood Lane, & Wilmot Road intersections with Deerfield Road within the project limits.

The survey for special ADA ramps shall include an area from the street right-of-way to the adjacent edge of pavement of subject street as shown on Attachment #2 (Typical Quadrant Survey Criteria for ADA Ramps Design) and 25 feet overlap with crossing streets right-of-way. The survey shall include the following specific tasks:

- Horizontal and Vertical Control: Utilizing state plane coordinates, CBBEL will set recoverable primary control utilizing state of the art GPS equipment.

- Topographic Survey: CBBEL will field locate all pavements, driveways, curb and gutters (curb, gutter flow line, and edge of pavement/ face of curb), pavement markings, signs, Manholes or Utility Vaults on sidewalks and parkways and within 10 feet of pavement area adjacent to the curb, drainage structures, driveway culverts, cross road culverts, Fences, Traffic Signals, Signs, traffic cameras, parking meters, and pay boxes, Trees (including DBH) & Bushes, Light and Power Poles , Sidewalks (back and face of sidewalks) and pavement . Elevations every approximately 10

feet along sidewalks, curbs, gutters, building or property line, doorway stoops or steps as applicable and shown on sketch /Attachment #2/ shall be taken. Elevations of roadway 5 feet from edge of pavement to be included.

- Base Mapping: All of the above information will be compiled into one base map representative of existing conditions of the project corridor for use in engineering work.

- Utility Coordination: CBBEL will coordinate with JULIE to retrieve atlas information for all applicable underground utilities including water main, gas, electric, cable, etc.. CBBEL will compile all Utility Atlas information into the base map. Locations of existing utilities /obstructions / systems shown on the base map are the compilation of available utility plans provided by utility owners and JULIE Utility Coordination. All utilities /obstructions / systems may not be shown. Contractor shall be responsible for locating and protecting all underground utilities /obstructions / systems whether or not shown on base map. JULIE Utility Coordination Atlas information is typically isolated to Public Right-of-Way (off-site) & limited areas adjacent to Public Right-of-Way. Identification & location of all private subsurface utilities within project area (on-site) is the responsibility of the client.

TASK 3 - ENVIRONMENTAL STUDIES/PSI

The environmental studies will include conducting a Preliminary Environmental Site Assessment (PESA), Preliminary Site Investigation, and Clean Construction and Demolition Debris (CCDD) testing. Additionally, consultation will be made with likely disposal sites to determine if additional LPC 663 testing will be required regardless of the results of the PESA. The services will be provided by Testing Services Corporation, Inc. CBBEL will use the findings of the CCDD testing to prepare specifications and quantities.

TASK 4 - CONTRACT DOCUMENTS

The contract documents will include:

A. Plan preparation

B. Cost estimate

C. Specifications

D. Permits

E. Estimate of Time

The contract documents will be prepared in three stages as follows

- Preliminary – 60% (Plans only)
- Prefinal – 90%
- Final – 100%

A. Plan Preparation

The plans will be prepared according to LCDOT Plan Preparation Guidelines (http://www.lakecountyil.gov/3870/Consultant-Resources).

A summary of anticipated sheets is as follows:

Sheet No	Sheet Title	# of sheets
1	Cover Sheet	1
2	General Notes	2
3	Summary of Quantities	2
4	Typical Sections	1
5	Schedule of Quantities	8
6	Removal Sheets	4
7	Proposed Improvements	8
8	Intersection Ramp Details	5
9	Traffic Control Plan	3
10	Erosion Control Plan	3
11	Traffic Signal Plan	
	Signal Installation Plan	2
	Cable Plan	2
	Temporary Signal Plan	2
	Temporary Cable Plan	2
	Signal Modification Plan	3
	Standard Details	6
	PASSAGE Network Detail	4
12	Construction Details	2
13	LCDOT Standard Details	15
14	IDOT Highway Standards	15
	Total	**90**

The number of IDOT and LCDOT standard details are subject to change.

B. Cost Estimate

Construction Estimate of Cost will be prepared using current bid tabs for projects of similar size. A cost breakdown of lump-sum items and a breakdown for municipal participation on relevant items will be prepared.

C. Specifications

Specifications including Local Roads and Streets and BDE Special Provisions will be prepared. Additional special provisions provided by the County will be included. LCDOT will add the up-front contract pages to the specification book.

D. Permits
   A NPDES permit is not anticipated. A Lake County Stormwater Management Commission (SMC) permit is not anticipated.

E. Estimate of Time Required
   The Estimate of Time required for construction will be prepared and included with the cost estimate spreadsheet.

TASK 5 - MEETINGS AND COORDINATION

It is anticipated that there will be a kick-off meeting, one meeting with the Village of Deerfield and two plan review meetings with the County.

ComEd Coordination

One meeting will be attended with ComEd to discuss and confirm power source for traffic signals.

ISTHA Coordination

The improvements at the I-94 interchange intersections will be coordinated with ISTHA. Two submittals are anticipated.

Task 6 – Structural Analysis of Retaining Wall

CBBEL structural staff will conduct a visual inspection the retaining wall on the north side of Deerfield Road east of the Tri-State Tollway to identify any signs of movement. CBBEL structural staff will mark locations for detailed survey and make any measurements that are appropriate as a basis for long-term monitoring of any wall movement. A Technical Memorandum will be prepared outlining a long-term monitoring plan for LCDOT.

Task 7 – QA/QC

CBBEL will provide QA/QC reviews at all major milestones. The review will provide QA/QC for scope of work, completeness, and accuracy of the submittals. CBBEL will also review the submittals for adherence to LCDOT standards.

TASK 8 - PROJECT MANAGEMENT

The Consultant will perform project management and administration, including staff and resource scheduling, progress monitoring, monthly invoice and progress reports. As part of the design development process, the Consultant will hold internal coordination meetings with all pertinent team members.

TASK 9 - PHASE III ASSISTANCE

The Consultant will assist during construction to address Request for Information (RFI's), conduct shop drawing review of the traffic signal equipment and attend a preconstruction meeting.

Deerfield Parkway Pavement Study from Krause Road to Milwaukee Avenue
Section No. 19-00248-03-GM

The design engineering project involves a study of the existing pavement condition of Deerfield Parkway from approximately 500 feet east off Krause Drive to Milwaukee Avenue, a length of 3,400 feet. Widening of Deerfield Parkway for the recent development just west of IL Route 21 found some existing concrete pavement joints to be in poor condition. This study will be to determine the typical condition of the pavement joints utilizing both Ground Penetrating Radar (GPR) and pavement cores at existing joints with recommendations for remediation, if appropriate. This work will be performed by subconsultants specializing in this work. Terracon will perform the GPR and pavement cores under the direction of Kimley Horn who will develop the Pavement Analysis Report according to the attached scopes of service.

TASK 1 – ASSESSMENT

The assessment of the existing pavement using three methods:

1. Visual assessment: The pavement will be assessed visually by walking the study limits in both directions to identify improvement needs. LCDOT will provide pavement management measured data from 2018 by block.
2. Pavement cores: Seven pavement cores will be taken in each direction (14 cores total) to understand pavement composition, condition, and deficiencies (See scope by Terracon). Cores will be located close near each of the three Woodman Foods entrances as there was difficulty tying into existing concrete at those locations. The core layout plan will be submitted to the County for review prion to beginning work.
3. Ground penetrating radar (GPR): The pavement in both directions will be scanned using a GPR (See scope by Terracon).

A photo log of the pavement will be prepared showing a summary of the distress types found during the assessment.

TASK 2 – DATA ANALYSIS

The analysis will include a review of the field assessment, pavement cores and GPR data to identify pavement distress and estimate of remaining service life.

Based on the assessment of the pavement conditions, treatment options could include:

- Do nothing
- Patching and crack filling
- Patching and crack filling coupled with an ultra-thin overlay
- Some sort of milling and roller compacted concrete surface
- Reconstruction

Treatment options will be identified for short-term, mid-term and long-term improvements. Preliminary cost estimates will be prepared for the improvement options. A cost / benefit analysis will be conducted for the recommendations.

TASK 3 – STUDY REPORT

The data collection, analysis and recommendations will be summarized in a study report. A draft report will be submitted for County review followed by a final report.

TASK 4 – MEETINGS AND COORDINATION

Meetings

It is anticipated that one meeting will be held with the County to review the study findings and comments on the draft study report.

Coordination

The Consultant will coordinate data collection and study submittals with Terracon and CBBEL.

TASK 5 – QA/QC

CBBEL will provide a QA/QC review of the Pavement Analysis Report analysis and recommendations prior to submitting it to the County.

TASK 6 - PROJECT MANAGEMENT

The Consultant will perform project management and administration, including staff and resource scheduling, progress monitoring, monthly invoice and progress reports. As part of the design development process, the Consultant will hold internal coordination meetings with all pertinent team members.

PAYROLL ESCALATION TABLE
FIXED RAISES

FIRM NAME Christopher B. Burke Engineering, Ltd.
PRIME/SUPPLEMENT

DATE 11/14/19
PTB NO.

CONTRACT TERM	12	**MONTHS**	**OVERHEAD RATE**	129.83%
START DATE	12/1/2019		**COMPLEXITY FACTOR**	0
RAISE DATE	1/1/2020		**% OF RAISE**	3.00%

ESCALATION PER YEAR

12/1/2019 - 1/1/2020	1/2/2020 - 12/1/2020			
1 / 12	11 / 12			
= 8.33%	94.42%			
= 1.0275				

The total escalation for this project would be: **2.75%**

PAYROLL RATES

FIRM NAME Christopher B. Burke Engineering, Ltd. **DATE** 11/14/19
PRIME/SUPPLEMENT

ESCALATION FACTOR **2.75%**

CLASSIFICATION	CURRENT RATE	PROPOSED RATE	CALCULATED RATE
PRINCIPAL	$70.00		$70.00
ENGINEER VI	$70.00		$70.00
ENGINEER V	$65.98		$67.79
ENGINEER IV	$54.41		$55.91
ENGINEER III	$46.70		$47.98
ENGINEER I/II	$33.08		$33.99
SURVEY V	$70.00		$70.00
SURVEY IV	$65.50		$67.30
SURVEY III	$57.75		$59.34
SURVEY II*	$43.30		$44.49
SURVEY I*	$34.50		$35.45
ENGINEERING TECHNICIAN V	$64.77		$66.55
ENGINEERING TECHNICIAN IV	$48.25		$49.58
ENGINEERING TECHNICIAN III	$51.44		$52.85
ENGINEERING TECHNICIAN I/II*	$20.67		$21.24
CAD MANAGER	$61.75		$63.45
ASST. CAD MANAGER	$51.33		$52.74
CAD II *	$46.92		$48.21
GIS SPECIALIST III	$49.00		$50.35
GIS SPECIALIST I/II*	$32.00		$32.88
LANDSCAPE ARCHITECT	$55.50		$57.03
ENVIRONMENTAL RESOURCE SPECIALIST V	$68.50		$70.00
ENVIRONMENTAL RESOURCE SPECIALIST IV	$53.13		$54.59
ENVIRONMENTAL RESOURCE SPECIALIST III	$40.67		$41.79
ENVIRONMENTAL RESOURCE SPECIALIST I/II	$31.13		$31.99
ENVIRONMENTAL RESOURCE TECHNICIAN*	$38.50		$39.56
ADMINISTRATIVE*	$36.28		$37.28
ENGINEERING INTERN	$16.00		$16.44

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

DF-824-039
REV 12/04

FIRM Christopher B. Burke Engineering, Ltd. **DATE** 11/15/19
Local Agency LCDOT **OVERHEAD RATE** 129.83%
Section 19-00034-07-RS **COMPLEXITY FACTOR** 0
Project Deerfield Road
Job No:

Cost Plus Fixed Fee 2 14.50% [DL+R(DL) +1.4(DL)+IHDC]

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	Outside Direct Costs (F)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
	Data Collection	2	135.59	176.04		47.18		2,973.00		3,331.81	1.85%
	Topographic Survey for ADA Ramps	100	4,914.64	6,380.68		1,710.30				13,005.62	7.23%
	Environmental Studies/PSI	4	271.18	352.07		94.37		9,480.00		10,197.62	5.67%
	Contract Documents	40	2,236.33	2,903.43		778.24		108,391.00		114,309.01	63.57%
	Meetings and Coordination	16	1,084.71	1,408.28		377.48		9,835.00		12,705.47	7.07%
	Structural Analysis of Retaining Wall	48	2,620.21	3,401.82		911.83				6,933.85	3.86%
	QA/QC	32	2,028.59	2,633.71		705.95				5,368.25	2.99%
	Project Management	10	682.36	885.90		237.46		6,651.00		8,456.72	4.70%
	Phase III Assistance	16	926.23	1,202.52		322.33		3,064.00		5,515.08	3.07%
	Subconsultant DL									0.00	
	TOTALS	268	14,899.83	19,344.45	0.00	5,185.14	0.00	140,394.00	0.00	**179,823.42**	100.00%

DBE

PREPARED BY THE AGREEMENTS UNIT

Printed 11/15/2019 9:34 AM

AVERAGE HOURLY PROJECT RATES

FIRM Christopher B. Burke Engineering, Ltd.
Local Agency LCDOT
Section 19-00034-07-RS
Project Deerfield Road
Job No: 0

DATE 11/14/19

SHEET 1 OF 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Data Collection			Topographic Survey for A			Environmental Studies/PS			Contract Documents			Meetings and Coordination		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
PRINCIPAL	70.00	0																	
ENGINEER VI	70.00	10	3.73%	2.61															
ENGINEER V	67.79	86	32.09%	21.75	2	100.00%	67.79				4	100.00%	67.79	16	40.00%	27.12	16	100.00%	67.79
ENGINEER IV	55.91	0																	
ENGINEER III	47.98	72	26.87%	12.89										24	60.00%	28.79			
ENGINEER I/II	33.99	0																	
SURVEY V	70.00	4	1.49%	1.04				4	4.00%	2.80									
SURVEY IV	67.30	12	4.48%	3.01				12	12.00%	8.08									
SURVEY III	59.34	0																	
SURVEY II*	44.49	32	11.94%	5.31				32	32.00%	14.24									
SURVEY I*	35.45	32	11.94%	4.23				32	32.00%	11.34									
ENGINEERING TECHN	66.55	0																	
ENGINEERING TECHN	49.58	0																	
ENGINEERING TECHN	52.85	0																	
ENGINEERING TECHN	21.24	0																	
CAD MANAGER	63.45	20	7.46%	4.73				20	20.00%	12.69									
ASST. CAD MANAGER	52.74	0																	
CAD II *	48.21	0																	
GIS SPECIALIST III	50.35	0																	
GIS SPECIALIST I/II*	32.88	0																	
LANDSCAPE ARCHITE	57.03	0																	
ENVIRONMENTAL RES	70.00	0																	
ENVIRONMENTAL RES	54.59	0																	
ENVIRONMENTAL RES	41.79	0																	
ENVIRONMENTAL RES	31.99	0																	
ENVIRONMENTAL RES	39.56	0																	
ADMINISTRATIVE*	37.28	0																	
ENGINEERING INTERN	16.44	0																	
TOTALS		268	100%	$55.60	2	100.00%	$67.79	100	100%	$49.15	4	100%	$67.79	40	100%	$55.91	16	100%	$67.79

PREPARED BY THE AGREEMENTS UNIT

AVERAGE HOURLY PROJECT RATES

FIRM Christopher B. Burke Engineering, Ltd.
Local Agency LCDOT
Section 19-00034-07-RS
Project Deerfield Road
Job No: 0

DATE 11/14/19

SHEET 2 **OF** 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Structural Analysis of Retaini			QA/QC			Project Management			Phase III Assistance								
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
PRINCIPAL	70.00																		
ENGINEER VI	70.00				8	25.00%	17.50	2	20.00%	14.00									
ENGINEER V	67.79	16	33.33%	22.60	16	50.00%	33.90	8	80.00%	54.24	8	50.00%	33.90						
ENGINEER IV	55.91																		
ENGINEER III	47.98	32	66.67%	31.99	8	25.00%	12.00				8	50.00%	23.99						
ENGINEER I/II	33.99																		
SURVEY V	70.00																		
SURVEY IV	67.30																		
SURVEY III	59.34																		
SURVEY II*	44.49																		
SURVEY I*	35.45																		
ENGINEERING TEC	66.55																		
ENGINEERING TEC	49.58																		
ENGINEERING TEC	52.85																		
ENGINEERING TEC	21.24																		
CAD MANAGER	63.45																		
ASST. CAD MANAG	52.74																		
CAD II *	48.21																		
GIS SPECIALIST III	50.35																		
GIS SPECIALIST I/II	32.88																		
LANDSCAPE ARCH	57.03																		
ENVIRONMENTAL F	70.00																		
ENVIRONMENTAL F	54.59																		
ENVIRONMENTAL F	41.79																		
ENVIRONMENTAL F	31.99																		
ENVIRONMENTAL F	39.56																		
ADMINISTRATIVE*	37.28																		
ENGINEERING INTE	16.44																		
TOTALS		48	100%	$54.59	32	100%	$63.39	10	100%	$68.24	16	100%	$57.89	0	0%	$0.00	0	0%	$0.00

PREPARED BY THE AGREEMENTS UNIT

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

DF-824-039
REV 12/04

FIRM Christopher B. Burke Engineering, Ltd. **DATE** 11/14/19
Local Agency LCDOT **OVERHEAD RATE** 129.83%
Section 19-00238-03-GM **COMPLEXITY FACTOR** 0
Project Deerfield Parkway
Job No:

Cost Plus Fixed Fee 2 14.50% [DL+R(DL) +1.4(DL)+IHDC]

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	Outside Direct Costs (F)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
	Assessment	0.5	33.90	44.01		11.80		22,610.00		22,699.70	57.59%
	Data Analysis	0.5	33.90	44.01		11.80		4,821.00		4,910.70	12.46%
	Study Report	0.5	33.90	44.01		11.80		4,204.00		4,293.70	10.89%
	Meetings and Coordination	8	542.36	704.14		188.74		1,814.00		3,249.24	8.24%
	QA/QC	8	546.77	709.87		190.27				1,446.91	3.67%
	Project Management	4	271.18	352.07		94.37		2,099.00		2,816.62	7.15%
	Subconsultant DL									0.00	
	TOTALS	21.5	1,461.99	1,898.10	0.00	508.77	0.00	35,548.00	0.00	**39,416.87**	100.00%

DBE

PREPARED BY THE AGREEMENTS UNIT

Printed 11/14/2019 3:17 PM

AVERAGE HOURLY PROJECT RATES

FIRM Christopher B. Burke Engineering, Ltd.
Local Agency LCDOT
Section 19-00238-03-GM
Project Deerfield Parkway
Job No: 0

DATE 11/14/19

SHEET 1 OF 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Assessment			Data Analysis			Study Report			Meetings and Coordination			QA/QC		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
PRINCIPAL	70.00	0																	
ENGINEER VI	70.00	2	9.30%	6.51													2	25.00%	17.50
ENGINEER V	67.79	19.5	90.70%	61.49	0.5	100.00%	67.79	0.5	100.00%	67.79	0.5	100.00%	67.79	8	100.00%	67.79	6	75.00%	50.85
ENGINEER IV	55.91	0																	
ENGINEER III	47.98	0																	
ENGINEER I/II	33.99	0																	
SURVEY V	70.00	0																	
SURVEY IV	67.30	0																	
SURVEY III	59.34	0																	
SURVEY II*	44.49	0																	
SURVEY I*	35.45	0																	
ENGINEERING TECHN	66.55	0																	
ENGINEERING TECHN	49.58	0																	
ENGINEERING TECHN	52.85	0																	
ENGINEERING TECHN	21.24	0																	
CAD MANAGER	63.45	0																	
ASST. CAD MANAGER	52.74	0																	
CAD II *	48.21	0																	
GIS SPECIALIST III	50.35	0																	
GIS SPECIALIST I/II*	32.88	0																	
LANDSCAPE ARCHITE	57.03	0																	
ENVIRONMENTAL RES	70.00	0																	
ENVIRONMENTAL RES	54.59	0																	
ENVIRONMENTAL RES	41.79	0																	
ENVIRONMENTAL RES	31.99	0																	
ENVIRONMENTAL RES	39.56	0																	
ADMINISTRATIVE*	37.28	0																	
ENGINEERING INTERN	16.44	0																	
TOTALS		21.5	100%	$68.00	0.5	100.00%	$67.79	0.5	100%	$67.79	0.5	100%	$67.79	8	100%	$67.79	8	100%	$68.35

PREPARED BY THE AGREEMENTS UNIT

Printed 11/14/2019 3:17 PM

AVERAGE HOURLY PROJECT RATES

FIRM Christopher B. Burke Engineering, Ltd.
Local Agency LCDOT
Section 19-00238-03-GM
Project Deerfield Parkway
Job No: 0

DATE 11/14/19

SHEET 2 **OF** 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Project Management Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
PRINCIPAL	70.00																		
ENGINEER VI	70.00																		
ENGINEER V	67.79	4	100.00%	67.79															
ENGINEER IV	55.91																		
ENGINEER III	47.98																		
ENGINEER I/II	33.99																		
SURVEY V	70.00																		
SURVEY IV	67.30																		
SURVEY III	59.34																		
SURVEY II*	44.49																		
SURVEY I*	35.45																		
ENGINEERING TEC	66.55																		
ENGINEERING TEC	49.58																		
ENGINEERING TEC	52.85																		
ENGINEERING TEC	21.24																		
CAD MANAGER	63.45																		
ASST. CAD MANAG	52.74																		
CAD II *	48.21																		
GIS SPECIALIST III	50.35																		
GIS SPECIALIST I/II	32.88																		
LANDSCAPE ARCH	57.03																		
ENVIRONMENTAL F	70.00																		
ENVIRONMENTAL F	54.59																		
ENVIRONMENTAL F	41.79																		
ENVIRONMENTAL F	31.99																		
ENVIRONMENTAL F	39.56																		
ADMINISTRATIVE*	37.28																		
ENGINEERING INTE	16.44																		
TOTALS		4	100%	$67.79	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00	0	0%	$0.00

PREPARED BY THE AGREEMENTS UNIT

Scope of Services

Introduction

Kimley-Horn and Associates, Inc. ("Kimley-Horn" or "Consultant") is pleased to submit this scope of services to Christopher Burke Engineering (CBBEL). Based on our understanding of the project, the Consultant team has developed the following Scope of Services to prepare contract documents for this project:

Data Collection

The Consultant will request available existing roadway and traffic signal plans for review of existing conditions. The Consultant will conduct two site visits to review project site and conduct plan review.

The following items will be provided by CBBEL:

- Topographic survey
- Utility locations drawn in CADD

Contract Documents

The contract documents will include:

A. Plan preparation
B. Cost estimate
C. Specifications
D. Permits
E. Estimate of Time

The contract documents will be prepared in three stages as follows

- Preliminary – 60% (Plans only)
- Prefinal – 90%
- Final – 100%

A. Plan Preparation
The plans will be prepared according to LCDOT Plan Preparation Guidelines (http://www.lakecountyil.gov/3870/Consultant-Resources).

Scope of Services

A summary of anticipated sheets is as follows:

Sheet No	Sheet Title	# of sheets
1	Cover Sheet	1
2	General Notes	2
3	Summary of Quantities	2
4	Typical Sections	1
5	Schedule of Quantities	8
6	Removal Sheets	4
7	Proposed Improvements	4
8	Intersection Ramp Details	7
9	Traffic Control Plan	3
10	Erosion Control Plan	3
11	Traffic Signal Plan	
	Signal Installation Plan	2
	Cable Plan	2
	Temporary Signal Plan	2
	Temporary Cable Plan	2
	Signal Modification Plan	3
	Standard Details	6
	PASSAGE Network Detail	4
12	Construction Details	2
13	LCDOT Standard Details	15
14	IDOT Highway Standards	15
	Total	88

The number of IDOT and LCDOT standard details are subject to change.

B. Cost Estimate
Construction Estimate of Cost will be prepared using current bid tabs for projects of similar size. A cost breakdown of lump-sum items and a breakdown for municipal participation on relevant items will be prepared.

C. Specifications
Specifications including Local Roads and Streets and BDE Special Provisions will be prepared. Additional special provisions provided by the County will be included. LCDOT will add the up-front contract pages to the specifications book.

D. Permits
A NPDES permit is not anticipated. A Lake County Stormwater Management Commission (SMC) permit is not anticipated.

E. Estimate of Time Required
The Estimate of Time required for construction will be prepared and included with the cost estimate spreadsheet.

Phase III Assistance

The Consultant will assist during construction to address Request for Information (RFI's), conduct shop drawing review of the traffic signal equipment and attend a preconstruction meeting.

Meetings and Coordination

Meetings
It is anticipated that there will be a kick-off meeting, one meeting with the Village of Deerfield and two plan review meetings with the County.

ComEd Coordination
One meeting will be attended with ComEd to discuss and confirm power source for traffic signals.

Coordination with CBBEL
The Consultant will coordinate data collection and project submittals with CBBEL.

ISTHA Coordination
The improvements at the I-94 interchange intersections will be coordinated with ISTHA. Two submittals are anticipated.

Project Management

The Consultant will perform project management and administration, including staff and resource scheduling, progress monitoring, monthly invoice and progress reports. As part of the design development process, the Consultant will hold internal coordination meetings with all pertinent team members and coordinate with CBBEL.

Deerfield Road
Saunders Road to Wilmot Road
Lake County Division of Transportation

Project Length

	Deerfield Road	4,200	feet	20 Scale	550 feet/sht
Intersections				50 Scale	1,200 feet/sht
	Signalized	6		100 Scale	2,400 feet/sht
	Unsignalized	2			

Sheet No	Sheet Title	# of sheets	Hours / sheet	Total Hours	Scale	Comment
1	Cover Sheet	1	12	12	NTS	
2	General Notes	2	4	8	NTS	Use LCDOT standard notes
3	Summary of Quantities	2	8	16	NTS	
4	Typical Sections	1	16	16	1:10	Deerfield Rd only
5	Schedule of Quantities	8	8	64	NTS	All items except lump-sum items
6	Removal Sheets	4	12	48	1:20	Double-plan view
7	Proposed Improvements	4	32	128	1:20	Double-plan view, Includes pvmt marking, drainage,
8	Intersection Ramp Details	7	8	56	1:5	14 quadrants, 2 / sheet
9	Traffic Control Plan	3	16	48	1:100	2 plans and 1 notes sheet
10	Erosion Control Plan	3	8	24	1:100	2 plans and 1 notes sheet
11	Traffic Signal Plan					
	Signal Installation Plan	2	32	64	1:20	I-94 SB and I-94 NB
	Cable Plan	2	16	32	NTS	I-94 SB and I-94 NB
	Temporary Signal Plan	2	24	48	1:20	I-94 SB and I-94 NB
	Temporary Cable Plan	2	12	24	NTS	I-94 SB and I-94 NB
	Signal Modification Plan	3	16	48	1:20	Castlewood Ln, Wilmot Rd and Riverwoods Rd
	Standard Details	6	0.5	3	NTS	
	PASSAGE Network Detail	4	0.5	2		By Lake County
12	Construction Details	2	8	16	NTS	TBD
13	LCDOT Standard Details	15	0.5	7.5	NTS	2 per 11x17 sheet except for full size standards
14	IDOT Highway Standards	15	0.5	7.5	NTS	IDOT standards 11 x 17 pdf files
	Total	88		672		
	Permits					Not expected
	Cost estimate			20		
	Specifications			40		
	Estimate of Time			4		

PAYROLL ESCALATION TABLE
FIXED RAISES

FIRM NAME Kimley-Horn
Prepared By Sagar Sonar

DATE 11/13/19

CONTRACT TERM	6	**MONTHS**	**OVERHEAD RATE**	194.06%
START DATE	12/18/2019		**COMPLEXITY FACTOR**	
RAISE DATE	7/1/2020		**% OF RAISE**	3%
END DATE	6/17/2020			

ESCALATION PER YEAR

year	First date	Last date	Months	% of Contract
0	12/18/2019	6/17/2020	6	100.00%

The total escalation = 0.00%

PAYROLL RATES

FIRM NAME Kimley-Horn **DATE** 11/13/19

PRIME/SUPPLEMENT Prime

ESCALATION FACTOR 0.00%

Note: Rates should be capped on the AVG 1 tab as necessary

CLASSIFICATION	IDOT PAYROLL RATES ON FILE	CALCULATED RATE
Regional Manager	$70.00	$70.00
Project Manager	$70.00	$70.00
Senior Project Engineer	$61.00	$61.00
Project Engineer	$44.95	$44.95
Design Engineer 1	$36.78	$36.78
Design Engineer 2	$32.24	$32.24
Senior Landscape Architect	$56.73	$56.73
Landscape Architect 1	$38.46	$38.46
Landscape Architect 2	$32.45	$32.45
CADD/Graphics	$37.00	$37.00
Clerical	$28.08	$28.08
Accountant	$40.00	$40.00

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

Bureau of Design and Environment
Prepared By: Consultant

FIRM Kimley-Horn

DATE 11/13/19

PRIME/SUPPLEMENT Prime

COMPLEXITY FACTOR 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	DIRECT COSTS (D)	FIXED FEE (E)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
	Data Collection	20	870	1,688	93	322		-	2,973	2.27%
	Contract Documents	736	32,721	63,497	66	12,107		-	108,391	82.80%
	Phase III Assistance	16	912	1,769	46	337		-	3,064	2.34%
	Meetings and Coordination	52	2,901	5,629	232	1,073		-	9,835	7.51%
	Project Management	34	2,008	3,897	3	743		-	6,651	5.08%
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
	Subconsultant DL					0			-	
	TOTALS	858	39,412	76,480	440	14,582	-	-	130,914	100.00%
			115,892							

DBE 0.00%

AVERAGE HOURLY PROJECT RATES

FIRM Kimley-Horn

PRIME/SUPPLEMENT Prime

SHEET 1 OF 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJ. RATES			Data Collection						Contract Documents			Phase III Assistance			Meetings and Coordination		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Regional Manager	70.00	24.0	2.80%	1.96							24	3.26%	2.28						
Project Manager	70.00	143.5	16.72%	11.71	4.5	22.50%	15.75				87	11.82%	8.27	9	56.25%	39.38	21	40.38%	28.27
Senior Project Engineer	61.00	123.5	14.39%	8.78	0.5	2.50%	1.53				110	14.95%	9.12	1	6.25%	3.81	12	23.08%	14.08
Project Engineer	44.95	0.0																	
Design Engineer 1	36.78	361.0	42.07%	15.48	9	45.00%	16.55				327	44.43%	16.34	6	37.50%	13.79	19	36.54%	13.44
Design Engineer 2	32.24	162.0	18.88%	6.09	6	30.00%	9.67				156	21.20%	6.83						
Senior Landscape Architect	56.73	0.0																	
Landscape Architect 1	38.46	0.0																	
Landscape Architect 2	32.45	0.0																	
CADD/Graphics	37.00	36.0	4.20%	1.55							32	4.35%	1.61						
Clerical	28.08	0.0																	
Accountant	40.00	8.0	0.93%	0.37															
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
TOTALS		858.0	100%	$45.93	20.0	100.00%	$43.50	0.0	0%	$0.00	736.0	100%	$44.46	16.0	100%	$56.98	52.0	100%	$55.79

AVERAGE HOURLY PROJECT RATES

FIRM Kimley-Horn
PRIME/SUPPLEMENT Prime

SHEET 2 **OF** 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	Project Management																	
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Regional Manager	70.00																		
Project Manager	70.00	22	64.71%	45.29															
Senior Project Engineer	61.00																		
Project Engineer	44.95																		
Design Engineer 1	36.78																		
Design Engineer 2	32.24																		
Senior Landscape Architect	56.73																		
Landscape Architect 1	38.46																		
Landscape Architect 2	32.45																		
CADD/Graphics	37.00	4	11.76%	4.35															
Clerical	28.08																		
Accountant	40.00	8	23.53%	9.41															
TOTALS		34.0	100%	$59.06	0.0	0%	$0.00	0.0	0%	$0.00	0.0	0%	$0.00	0.0	0%	$0.00	0.0	0%	$0.00

Deerfield Road, Saunders Road to Wilmot Road

Lake County, Division of Transportation

In-house Direct Costs

	Task	SubTask	Notes	Sub-Total	
I	Data Collection			93	
		Mileage	2 trips, 80 miles roundtrip @ $0.58/mile		92.8
		Printing	None		
II	Environmental Studies			0	
		Mileage	None		
		Printing	None		
III	Contract Documents			66	
		Mileage	None		0
		Printing	3x50 sheets x1 8.5x11 B&W @ $0.10/sheet		15
			3x88 sheets x1 11x17 B&W @ $0.13/sheet		34.32
			50 sheets x1 8.5x11 B&W @ $0.10/sheet		5
			88 sheets x1 11x17 B&W @ $0.13/sheet		11.44
IV	Phase III Assistance			46	
		Mileage	1 trip, 80 miles roundtrip @ $0.58/mile		46.4
		Printing	None		
V	Meetings and Coordination			232	
		Mileage	5 trips, 80 miles roundtrip @ $0.58/mile		232
		Printing	None		
VI	Project Management			3	
		Mileage	None		0
		Printing	6 invoices at 5 shts 8.5x11 B&W @ $0.10/sheet		3
			TOTAL	$440	

Deerfield Road, Saunders Road to Wilmot Road

Lake County, Division of Transportation

Estimate of Manhours

	Task	SubTask	Notes	Sub-Total	Sub-Sub	QA/QC	Sonar	Newbauer	Facknitz	Biggs	Showers	Ruelle	CADD	Accountant	Direct Cost
I	**Data Collection**			20											93
		Request and review existing data			4		0.5	0.5	1	2					
		Field Checks	2 field visits, 2 staff, 4 hrs		16		4		8	4					
		Utility Atlases	By CBBEL		0										
		Topographic Survey	By CBBEL		0										
						0	**4.5**	**0.5**	**9**	**6**	**0**	**0**	**0**	**0**	
II	**Environmental Studies**			0											0
		CCDD Testing and Specificatic	By CBBEL		0										
					0										
						0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
III	**Contract Documents**		(See attached details)	736											66
		Plan Preparation			672	24	76	76	136	136	160	32	32		
		Permits	NA		0										
		Cost Estimate			20		2	2	4	12					
		Specifications			40		8		24	8					
		Estimate of Time			4		1		3						
						24	**87**	**78**	**167**	**156**	**160**	**32**	**32**	**0**	
IV	**Phase III Assistance**			16											46
		RFI's	2 hrs / month for 4 months		8		4		4						
		Shop drawing review			4		1				2	1			
		Preconstruction Meeting, 1 meeting, 1 staff, 4 hrs/meeting			4		4								
						0	**9**	**0**	**4**	**0**	**2**	**1**	**0**	**0**	

Deerfield Road, Saunders Road to Wilmot Road

Lake County, Division of Transportation

Estimate of Manhours

	Task	SubTask	Notes	Sub-Total	Sub-Sub	QA/QC	Sonar	Newbauer	Facknitz	Biggs	Showers	Ruelle	CADD	Accountant	Direct Cost
V	**Meetings and Coordination**			52											232
		Meetings	3 LCDOT meetings, 2 staff, 4 hrs/meeting		24		12	6	6						
		Stakeholder Coordination	Meeting with Deerfield		4		4								
		ComEd Coordination	1 meeting, 1 staff, 4 hrs/meeting		8		1		1		4	2			
		Subconsultant Coordination			8		2	2	4						
		ISTHA Coordination	2 submittals		8		2				4	2			
						0	**21**	**8**	**11**	**0**	**8**	**4**	**0**	**0**	
VI	**Project Management**			34											3
		Project setup	Agreements, Microstation, PW and Accounting		10		4						4	2	
		Management and Admin	Budget, Schedule and Invoicing - 4hrs/month for 6 months		24		18							6	
						0	**22**	**0**	**0**	**0**	**0**	**0**	**4**	**8**	
		SUBTOTAL		**858**		**24**	**143.5**	**86.5**	**191**	**162**	**170**	**37**	**36**	**8**	
						2.8%	16.7%	10.1%	22.3%	18.9%	19.8%	4.3%	4.2%	0.9%	

TESTING SERVICE CORPORATION

Corporate Office

360 South Main Place, Carol Stream, IL 60188-2404
630.462.2600 • Fax 630.653.2988

November 15, 2019

Mr. Martin Worman
Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road Suite 600
Rosemont, IL 60018-4920

RE: P.N. 64,129
Potentially Impacted Property Evaluation with
Soil Sampling and Analysis for LPC-662/663
Sidewalk Ramps
Deerfield Road
Deerfield, IL

Dear Mr. Worman:

Testing Service Corporation (TSC) is pleased to submit this proposal to provide Environmental Services for the above captioned project. It responds to several recent email and telephone conversations. As part of the Deerfield Road resurfacing project, up to 50 cubic yards of soil may be generated during reconstruction of ADA sidewalk ramps at four intersections on Deerfield Road; Oakhurst Lane, Parkway North Blvd, Castlewood Lane and Wilmot Rd. The objectives are perform a Potentially Impacted Property Evaluation 1) to update an existing LPC-663 form and report; 2) to analyze three soil samples at locations specified by the client for corrosion parameters which were described an August 14, 2018.

TSC will evaluate current Federal and State environmental agency records for the site by obtaining a Radius Map Report from Environmental Data Resources, Inc. (EDR). Review of the Radius Map Report assists in identifying potential contamination sources from the project site as well as nearby properties which may cause it to be considered a PIP. TSC will also perform a reconnaissance to evaluate the site and surrounding area for evidence of the use or release of hazardous substances or petroleum products.

It is considered likely that the Radius Map Report will identify the project site as a western intersections as PIPs. Therefore, it is assumed that additional analytical testing and analysis will be required in order to determine if the soils at the site can be accepted at a CCDD/USFO facility. If possible we recommend that the CCDD/USFO facility destination to be used for a particular project be contacted to verify that the analytical parameters proposed will be sufficient. Currently Thelen Sand and Gravel is assumed.

The objectives of the Study are to determine whether the associated analytical analysis provides a basis for TSC to sign IEPA Form LPC-663, Uncontaminated Soil Certification by Licensed Professional Engineer.

For uncontaminated soil including uncontaminated soil mixed with clean construction or demolition debris (CCDD) to be accepted at a CCDD fill operation, it must be certified to be uncontaminated soil in accordance with Section 22.51(f)(2)(B) of the Environmental Protection Act [415 ILCS 5/22.51(f)(2)(B)]. For uncontaminated soil to be accepted at an uncontaminated soil fill operation (USFO) it must be certified to be uncontaminated soil in accordance with Section 22.51a(d)(2)(B) of the Environmental Protection Act [415 ILCS 5/22.51a(d)(2)(B). These certifications must be made by a licensed professional engineer or geologist (PE/PG) using the attached Form LPC-663 when the soil is removed from a site.

We are proposing to hand auger and sample up to seven (7) locations. For the purposes of this proposal we have assumed that the sample locations will be accessible to hand auger equipment. TSC will utilize personnel trained in layout procedures to stake the borings in the field. Utility clearance for the borings will be obtained by contacting JULIE (Joint Utility Locating Information for Excavators); secondary and private underground utility lines will have to be marked by the property owner or their agents; a private locator can be hired (at an added cost) if necessary.

Soil samples are to be collected from zones to be excavated as part of the proposed site improvements. Immediately upon removing the soil from the sampler, a representative portion will be placed in a clean glass sample jar and kept cool for possible analytical testing. A second portion will be broken up to maximize surface area and placed in a separate clean jar which is covered with an aluminum foil liner. A headspace analysis will be performed on the second samples, i.e. a photo-ionization detector (PID) used to check for the presence of volatile organic vapors.

TSC contacted Mr. Gary O'Toole at Thelen Sand and Gravel to advise on the analytical testing. Requested by several contractor's in past projects in this geographic area, Thelen Sand and Gravel has more stringent requirements than most USFO/CCDD facilities. For proposal purposes, it is assumed that up to seven (7) test samples will be analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total RCRA metals, iron and pH.

Additional or less analytical testing may be dictated by the results of the PIP and headspace analysis. You will be notified of any changes involving additional costs. The test results will be compared to Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations as presented in 35 IAC 1100.Subpart F. If analysis of all chemical constituent included on the MAC list is desired, the analysis of additional TAL Metals, Pesticides, Herbicides, Chloride, Nitrate, Cyanide, Fluoride and Sulfate may be performed at additional costs as noted in our Cost Estimate.

A summary report will be prepared which describes the sampling procedures followed and presents results of the analytical testing. If all analytical results meet their respective MACs, Form LPC-663 will be filled out and signed by a Licensed Professional Engineer or Geologist. The report will be included as an attachment to it.

Please note that our signing of Form LPC-663 is contingent upon all constituents meeting their respective MACs. If any constituent exceeds the MACs, the Licensed Professional Engineer or Geologist will not be able to certify the soil as uncontaminated.

It should be noted that if one or more total metals concentrations exceed their respective MAC, addition analysis of the TCLP or SPLP extract may be performed for those metals. In accordance with 35IAC1100.610(b)(3)©, as an alternative to the MAC value, compliance verification may be determined by comparing soil sample extraction results by TCLP or SPLP to the respective TACO Class 1 Soil Component of the Groundwater Ingestion Exposure Route Objective in 35IAC742 Appendix B, Table A. TSC will recommend this additional analysis be performed if all other parameters with the exception of the metal(s) meet the MACs.

If the analytical results exceed the MACs or TACO Objective which prevent certification of the soil as uncontaminated, additional analysis may be required in connection with disposal of the soil at a Subtitle D landfill. There will most likely be an additional charge for associated consulting, analytical testing and completion of the waste profile.

Fees and Scope:

In accordance with the Cost Estimate attached, TSC is proposing a amount of Nine Thousand Four and Eighty Dollars ($9,480.00) for the listed scope of work above.

Should the study reveal unexpected conditions requiring a change in the scope of work, you will be contacted before we proceed with additional work. Our invoice would then based on the unit rates given in the attached Cost Estimate or as otherwise agreed upon. While our quoted fee does not include excavation, fill, earthwork, footing or foundation observations during construction phase, the project budget should include a provision for these services. Plan review, preconstruction meetings and/or other consulting and professional services that are provided subsequent to delivery of TSC's report would be covered by separate invoice.

Closure:

The services being performed are subject to TSC's attached General Conditions for CBBEL. Unless stated otherwise, TSC fees include all state and federal taxes and permits that may be required. However, they do not include any license, permit or bond fees that local governments may impose.

The local fees, if any, will be added to the invoice. Unless we receive written instructions to the contrary, invoices will be sent to:

Mr. Martin Worman
Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road Suite 600
Rosemont, IL 60018-4920
Tel: (847) 823-0500
email: mworman@cbbel.com

If this proposal meets with your approval, please indicate your acceptance by signing one copy and returning it to our Carol Stream, Illinois office. It would be helpful if you could also complete the attached Project Data form indicating who is to receive copies of TSC's report and other related information.

Your consideration of our proposal is appreciated. We look forward to being of service to you on this project.

Respectfully submitted,

TESTING SERVICE CORPORATION

David L. Hurst
Vice President

DLH:lm

Enc: Cost Estimate
General Conditions
Project Data Sheet

Approved and accepted for _____ by:

_____
(NAME)

_____
(TITLE)

_____
(DATE)

COST ESTIMATE

Deerfield Rd, Saunders Rd to Wilmot Rd
Sidewalk Ramps
Bensenville, IL
TSC P.N. 61,625

	ITEM	UNITS	QTY	RATE	COST
STAKING AND UTILITY CLEARANCE					
1.1	Layout Person to Mark Boring Locations and/or Arrange for Clearance of Underground Utilities	Lump Sum	1.0	250.00	$ 250.00
DRILLING AND SAMPLING					
2.1	Coring Truck with Geoprobe and Union Operator (Portal to Portal)	Lump Sum	0	2,100.00	$ 0.00
2.2	Environmental Personnel to Screen & Prepare Samples, Includes Use of Photoionization Detector	Each	10	125.00	$ 1,250.00
PIP EVALUATION RECORDS REVIEW, SITE RECONNAISSANCE, PIP DETERMINATION					
3.1	Obtain EDR Radius Map Report , Review of Radius Map Report, Site Reconnaissance and PIP Evaluation. Includes Review of Prior Report	Lump Sum	1	1,500.00	$ 1,500.00
ANALYTICAL TESTING					
4.1	VOCs, SVOCs, total RCRA metals ,iron and pH	Each	7	650.00	$ 4,550.00
4.2	TCLP/SPLP Analysis of Metals which exceed MACs, if required. (Cost dependent on specific metals analyzed)	Each	5	$100 Extraction + $36/metal	$ 680.00
4.3	Analytical testing for TAL metals not included in RCRA list, pesticides, herbicides, chloride, nitrate, cyanide, fluoride, and sulfate, required at some CCDD/USFO facilities	Each	0	868.00	$ 0.00
REPORT PREPARATION AND LPC-663 FORM					
5.1	Environmental Data Review, Prepare Summary Report with Form LPC-663 signed by PG or PE if Uncontaminated	Lump Sum	1	1,250.00	$ 1,250.00
				ESTIMATED TOTAL:	**$ 9,480.00**

Scope of Services

Introduction

The purpose of the study is to evaluate the condition of the pavement by observing the current distresses and determine recommendations to cost-effectively rehabilitate the pavement. The recommendations will be developed for short-term, mid-term, and long-term improvements. Deerfield Pkwy has two through lanes in each direction and has concrete pavement. The pavement in each direction will be reviewed independently.

The study limits are from Krause Rd to Milwaukee Ave (IL Route 21) for a length of 3,700 feet.

Kimley-Horn and Associates, Inc. ("Kimley-Horn" or "Consultant") is pleased to submit this scope of services to Christopher Burke Engineering (CBBEL). Based on our understanding of the study, the Consultant team has developed the following Scope of Services to prepare recommendations and cost estimates for this project:

Assessment

The assessment of the existing pavement using three methods:

1. Visual assessment: The pavement will be assessed visually by walking the study limits in both directions to identify improvement needs. LCDOT will provide pavement management measured data from 2018 by block.
2. Pavement cores: Seven pavement cores will be taken in each direction (14 cores total) to understand pavement composition, condition, and deficiencies (See scope by Terracon).
3. Ground penetrating radar (GPR): The pavement in both directions will be scanned using a GPR (See scope by Terracon).

A photo log of the pavement will be prepared showing a summary of the distress types found during the assessment.

Data Analysis

The analysis will include a review of the field assessment, pavement cores and GPR data to identify pavement distress and estimate of remaining service life.

Based on the assessment of the pavement conditions, treatment options could include:

- Do nothing
- Patching and crack filling
- Patching and crack filling coupled with an ultra-thin overlay
- Some sort of milling and roller compacted concrete surface
- Reconstruction

Treatment options will be identified for short-term, mid-term and long-term improvements. Preliminary cost estimates will be prepared for the improvement options. A cost / benefit analysis will be conducted for the recommendations.

Scope of Services

Study Report

The data collection, analysis and recommendations will be summarized in a study report. A draft report will be submitted for County review followed by a final report.

Meetings and Coordination

Meetings
It is anticipated that one meeting will be held with the County to review the study findings and comments on the draft study report.

Coordination
The Consultant will coordinate data collection and study submittals with Terracon and CBBEL.

Project Management

The Consultant will perform project management and administration, including staff and resource scheduling, progress monitoring, monthly invoice and progress reports. As part of the design development process, the Consultant will hold internal coordination meetings with all pertinent team members and coordinate with CBBEL.

PAYROLL ESCALATION TABLE
FIXED RAISES

FIRM NAME Kimley-Horn
Prepared By Sagar Sonar

DATE 11/14/19

CONTRACT TERM	6	**MONTHS**	**OVERHEAD RATE**	194.06%
START DATE	12/18/2019		**COMPLEXITY FACTOR**	
RAISE DATE	7/1/2020		**% OF RAISE**	3%
END DATE	6/17/2020			

ESCALATION PER YEAR

year	First date	Last date	Months	% of Contract
0	12/18/2019	6/17/2020	6	100.00%

The total escalation = 0.00%

PAYROLL RATES

FIRM NAME Kimley-Horn **DATE** 11/14/19

PRIME/SUPPLEMENT Prime

ESCALATION FACTOR 0.00%

Note: Rates should be capped on the AVG 1 tab as necessary

CLASSIFICATION	IDOT PAYROLL RATES ON FILE	CALCULATED RATE
Regional Manager	$70.00	$70.00
Project Manager	$70.00	$70.00
Senior Project Engineer	$61.00	$61.00
Project Engineer	$44.95	$44.95
Design Engineer 1	$36.78	$36.78
Design Engineer 2	$32.24	$32.24
Senior Landscape Architect	$56.73	$56.73
Landscape Architect 1	$38.46	$38.46
Landscape Architect 2	$32.45	$32.45
CADD/Graphics	$37.00	$37.00
Clerical	$28.08	$28.08
Accountant	$40.00	$40.00

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

Bureau of Design and Environment
Prepared By: Consultant

FIRM Kimley-Horn **DATE** 11/14/19

PRIME/SUPPLEMENT Prime **COMPLEXITY FACTOR** 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	DIRECT COSTS (D)	FIXED FEE (E)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
	Assessment	16	684	1,327	46	253	20,300	-	22,610	63.60%
	Data Analysis	34	1,456	2,826		539		-	4,821	13.56%
	Study Report	30	1,270	2,464		470		-	4,204	11.83%
	Meetings and Coordination	10	534	1,036	46	198		-	1,814	5.10%
	Project Management	10	634	1,230		235		-	2,099	5.90%
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
			-	-		-		-	-	
	Subconsultant DL					0			-	
	TOTALS	100	4,578	8,883	92	1,695	20,300	-	35,548	100.00%
			13,461							

DBE 0.00%

AVERAGE HOURLY PROJECT RATES

FIRM Kimley-Horn
PRIME/SUPPLEMENT Prime

SHEET 1 OF 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJ. RATES			Assessment			Data Analysis			Study Report			Meetings and Coordination			Project Management		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Regional Manager	70.00	0.0																	
Project Manager	70.00	24.5	24.50%	17.15	2.5	15.63%	10.94	4	11.76%	8.24	5	16.67%	11.67	5	50.00%	35.00	8	80.00%	56.00
Senior Project Engineer	61.00	3.5	3.50%	2.14	0.5	3.13%	1.91	3	8.82%	5.38									
Project Engineer	44.95	0.0																	
Design Engineer 1	36.78	70.0	70.00%	25.75	13	81.25%	29.88	27	79.41%	29.21	25	83.33%	30.65	5	50.00%	18.39			
Design Engineer 2	32.24	0.0																	
Senior Landscape Architect	56.73	0.0																	
Landscape Architect 1	38.46	0.0																	
Landscape Architect 2	32.45	0.0																	
CADD/Graphics	37.00	2.0	2.00%	0.74													2	20.00%	7.40
Clerical	28.08	0.0																	
Accountant	40.00	0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
		0.0																	
TOTALS		100.0	100%	$45.77	16.0	100.00%	$42.73	34.0	100%	$42.83	30.0	100%	$42.32	10.0	100%	$53.39	10.0	100%	$63.40

Deerfield Parkway, Krause Drive to Milwaukee Avenue

Lake County, Division of Transportation

In-house Direct Costs

	Task	SubTask	Notes	Sub-Total	
I	Assessment			46	
		Mileage	1 trips, 80 miles roundtrip @ $0.58/mile		46.4
		Printing	None		
II	Data Analysis			0	
		Mileage	None		
		Printing	None		
III	Study Report			0	
		Mileage	None		0
		Printing	None		0
IV	Meetings and Coordination			46	
		Mileage	1 trips, 80 miles roundtrip @ $0.58/mile		46.4
		Printing	None		
V	Project Management			0	
		Mileage	None		0
		Printing	None		0
			TOTAL	**$93**	

Deerfield Parkway, Krause Drive to Milwaukee Avenue

Lake County, Division of Transportation

Estimate of Manhours

	Task	SubTask	Notes	Sub-Total	Sub-Sub	QA/QC	Sonar	Kaufmann	Panter	Facknitz	Kastelic	CADD	Accountant	Direct Cost
I	**Assessment**			16										46
		Setup and planning			4		1	0.5	0.5		2			
		Travel			2						2			
		Field assessment			8						8			
		Geotechnical: Pvmt Cores and G	By Terracon		2		1				1			
						0	**2**	**0.5**	**0.5**	**0**	**13**	**0**	**0**	
II	**Data Analysis**			34										0
		Data processing			4					2	2			
		Data analysis			8		1		1	2	4			
		Develop recommendations	Short, mid-term and Long-term		10		1		1	2	6			
		Cost estimate	Short, mid-term and Long-term		8		1		1	4	2			
		Cost / Benefit analysis			4		1			2	1			
						0	**4**	**0**	**3**	**12**	**15**	**0**	**0**	
III	**Study Report**			30										0
		Draft report			18		2	1		3	12			
		Final report			12		1	1		2	8			
						0	**3**	**2**	**0**	**5**	**20**	**0**	**0**	
IV	**Meetings and Coordination**			10										46
		Meetings	1 LCDOT meetings, 2 staff, 4 hrs/meeting		8		4				4			
		Consultant Coordination	Coordination with CBBEL and Terracon		2		1				1			
						0	**5**	**0**	**0**	**0**	**5**	**0**	**0**	
V	**Project Management**			10										0
		Project setup	Agreements, Microstation, PW and Accounting		4		2					2		
		Management and Admin	Budget and Schedule - 2 hrs/month for 3 months		6		6							
						0	**8**	**0**	**0**	**0**	**0**	**2**	**0**	
		SUBTOTAL		**100**		**0**	**22**	**2.5**	**3.5**	**17**	**53**	**2**	**0**	
						0.0%	22.0%	2.5%	3.5%	17.0%	53.0%	2.0%	0.0%	

November 13, 2019

Kimley-Horn
1001 Warrenville Road, Suite 350
Lisle, Illinois 60532

Attn: Mr. Sagar Sonar, P.E., PTOE
P: 630.487.3469
E: Sagar.Sonar@kimley-horn.com

Re: Proposal for Subsurface Exploration Services
Deerfield Parkway Pavement Exploration
Between Krause Drive and North Milwaukee Avenue
Buffalo Grove, Illinois
Terracon Proposal No. PMR195247-R1

Dear Mr. Sonar:

We appreciate the opportunity to submit this proposal to Kimley-Horn to provide Subsurface Exploration services for the above referenced project. The following are exhibits to the attached Master Services Agreement – Task Order.

Exhibit A	Project Understanding
Exhibit B	Scope of Services
Exhibit C	Compensation and Project Schedule
Exhibit D	Site Location
Exhibit E	Anticipated Exploration Plan

Our lump sum fee to perform the Scope of Services described in this proposal is **$19,700**. See Exhibit C for more details of our fees and consideration of additional services.

Your authorization for Terracon to proceed in accordance with this proposal can be issued by signing and returning a copy of the attached Task Order to our office.

Sincerely,
Terracon Consultants, Inc.

Nicholas L. Hussey, P.E.
Project Engineer

Paul J. Korzarek, P.E.
Department Manager

EXHIBIT A - PROJECT UNDERSTANDING

Our Scope of Services is based on our understanding of the project as described by Kimley-Horn and the expected subsurface conditions as described below. We have not visited the project site to confirm the information provided. Aspects of the project, undefined or assumed, are highlighted as shown below. We request the design team verify all information prior to our initiation of field exploration activities.

Site Location and Anticipated Conditions

Item	Description
Parcel Information	The project is located along Deerfield Parkway between Krause Drive and North Milwaukee Avenue in Buffalo Grove, Illinois. See **Exhibit D – Site Location**
Existing Improvements	■ Concrete-surfaced roadway with two drive lanes in each direction ■ Grassy median with occasional trees
Current Ground Cover	■ Concrete pavement
Existing Topography (from Lake County GIS)	■ Site grades are generally flat with surface elevations near 645 feet, but elevations increase to about 655 feet near Krause Drive
Site Access	We expect the site, and all exploration locations, are accessible with our trailer-mounted coring equipment.

Planned Construction

Item	Description
Project Description	Lake County has identified portions of Deerfield Parkway that are having pavement performance issues, especially degradation of the concrete at panel joints. The surface concrete appears to be intact, but is severely fragmented or degraded below the surface. Kimley-Horn will be performing a pavement design for the County and has requested a series of pavement cores and GPR surveys along the indicated section of Deerfield Parkway.

EXHIBIT B - SCOPE OF SERVICES

Our proposed Scope of Services consists of field exploration, laboratory testing, and engineering/project delivery. These services are described in the following sections.

Field Exploration

Based on the proposed project and our discussions with Kimley-Horn, our Scope of Services will consist of a combination of pavement coring and ground penetrating radar (GPR) surveys. The Scope is detailed below.

Number of Cores	Planned Boring Depth (feet) [1]	Planned Locations
14	Pavement core	Along Deerfield Parkway at locations identified by Kimley-Horn

1. Below existing ground surface.

Core Layout: Suggested core locations are shown on **Exhibit E**, but final locations will be determined in coordination with the Lake County Department of Transportation (LCDOT). We understand that the core locations will be marked by Kimley-Horn and that we will be provided stationing and coordinates (latitude/longitude and/or Illinois State Plane) and surface elevations at the boring locations. If offsets from the staked locations are required due to access restrictions or utilities, the offset(s) will be noted on the boring logs.

Subsurface Exploration Procedures: We will perform the pavement coring with a trailer-mounted coring machine. Determining the base course thickness and obtaining soil samples are not included in the Scope of Services. The pavement cores will be measured and labeled in the field and returned to our laboratory for photographing. We will patch the pavements with non-shrink grout per IDOT requirements.

Traffic Control: Traffic control services are included in our Scope of Services. Our traffic control is planned to include and arrow board and associated signage. We plan to close an entire drive lane in the eastbound or westbound direction to allow us a safe zone to perform the pavement coring and GPR survey. Our Scope of Services includes two full days of traffic control.

GPR Survey

Multi-channel ground penetrating radar (MCGPR) will be performed in the along the 0.7-mile length of Deerfield Parkway. The exploration will focus on the top 6 to 10 feet below the rough grade level, although actual depth of penetration will not be known until we start data collection.

MCGPR data will be collected on at least lane in the eastbound and westbound directions. If traffic control can easily be adjusted between drive lanes, the MCGPR may be able to cover the

entire width of the two drive lanes. The MCGPR is integrated with real-time kinematic (RTK) corrected GPS coordinates, so anomalies will be accurately located for coring at a later date. No geophysical survey can guarantee that all voids or low-density soil zones are detected. Data between the swaths, although it may be interpolated, will not be considered reliable.

Terracon would use a towed MCGPR system consisting of an IDS GeoRadar Stream EM to collect data in accessible areas of the site. The Stream EM consists of 38 channels of a combination of 200 MHz and 600 MHz antenna frequencies oriented in both the horizontal and vertical dipole directions. This allows for wide swaths of data to be collected in a single pass. The data is geo-referenced using a survey-grade GPS antenna mounted to the top of the Stream EM unit. As one of only 5 units in the US, we believe this unit will provide the best data and coverage for this important site.

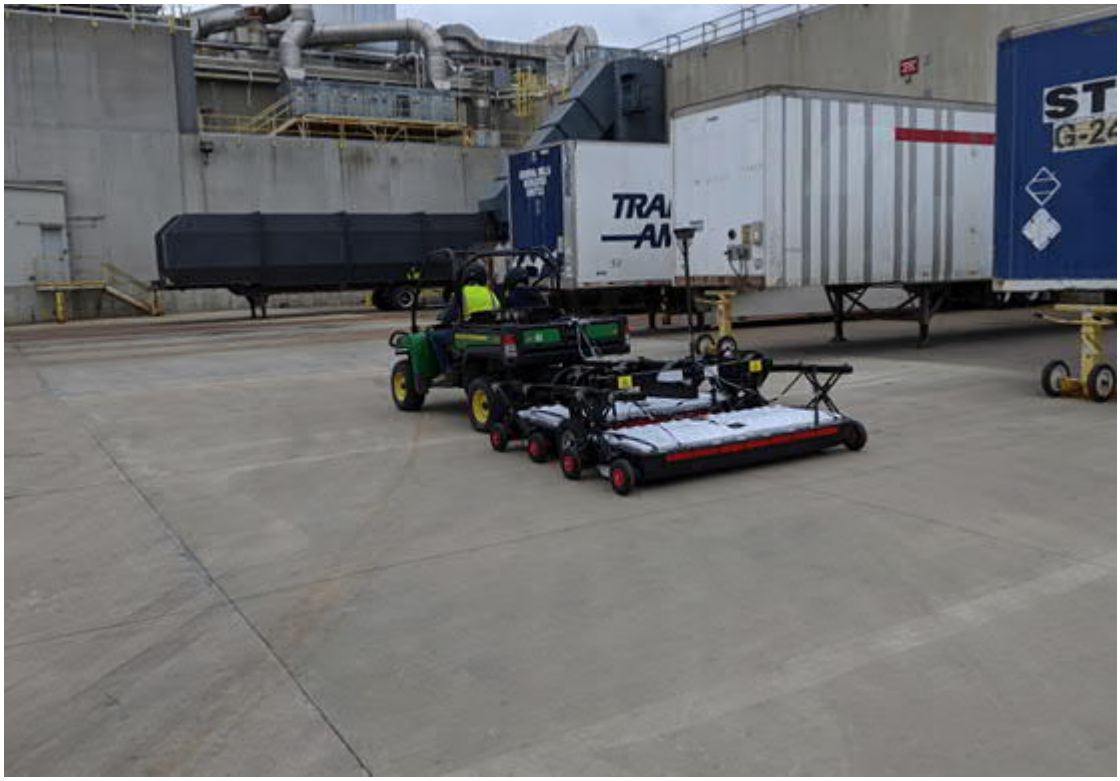

Figure 1: Image of the Stream EM

Data collection is typically performed in a single direction when using the Stream EM system due to its use of both horizontal and vertical dipole antennas. However, because the system is ground-coupled (must stay in contact with the ground), the roadway must be clear of obstructions and large debris. We will attempt to drive around areas that are inaccessible or obstructed. Additionally, pavements with dense reinforcing steel may limit the effectiveness of the MCGPR exploration due to the reflections off the rebar, although we do not expect to encounter them on this site.

MCGPR data will be post-processed using the GRED software suite by IDS GeoRadar. MCGPR post-processing typically consists of position correction and background removal (filtering), although other processing algorithms may be used depending on the data. The MCGPR data can then be evaluated in orthogonal and cross-section views for analysis.

GPR utilizes radio waves to detect changes in the subsurface of the area being scanned. Changes in the signal generally indicate material property changes such as, but not limited to, electromagnetic conductivity and dielectric constant, which in some cases can be qualitatively linked to other material properties such as density, moisture, or material type, and can be effective in identifying the presence and location of items such as voids, buried concrete, tanks, underground utilities, and embedded reinforcing steel in concrete and masonry structures, among other things.

The deliverable for the GPR survey will include a Google Earth KMZ file, AutoCAD DWG file, or similar electronic drawing. The file will be able to be overlain on a set of plans to delineate areas where subsurface voids or other anomalies were identified during the survey. The subsurface exploration report will also contain a short interpretation and analysis of the GPR data.

Dynamic Cone Penetrometer Testing (Optional)

Dual-mass dynamic cone penetrometer (DCP) soundings will be used to estimate the in-situ CBR of the subgrade at each location in the upper 3 feet starting at the bottom of the pavement layer. Dynamic cone penetrometer (DCP) soundings would be performed in four borings in each traffic direction, for a total of 8 test locations. The DCP soundings will be conducted in general accordance with ASTM D 6951 which provides correlations to the in-situ California Bearing Ratio (CBR). A Kessler dual-mass DCP will be used for each of the soundings beginning with the single-mass 10.1-pound weight and increasing to the dual-mass 17.6-lb hammer if excessive blows are recorded. The hammer mass is dropped a fixed distance onto an anvil and the blows and accompanying tip penetration into the subgrade are recorded.

Hand auger borings will be advanced into the subgrade to a depth of approximately 3 feet, or until practical auger refusal is reached. Up to three (3) disturbed “grab” samples will be obtained from each boring. We plan to perform approximately 4 hand auger locations to confirm the subgrade conditions represented by the DCP testing.

Safety

Terracon is not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our Scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our Scope of Services does not include environmental site assessment services, but identification of unusual or unnatural materials encountered while drilling will be noted in our report.

Exploration efforts require borings (and possibly excavations) into the subsurface, therefore Terracon will comply with local regulations to request a utility location service through the Illinois JULIE one-call. We will consult with the City/County regarding potential utilities, or other unmarked underground hazards. Based upon the results of this consultation, we will consider the need for alternative subsurface exploration methods, as the safety of our field crew is a priority.

Private utilities should be marked by the City/County prior to commencement of field exploration. Terracon will not be responsible for damage to private utilities not disclosed to us. If the City/County is unable to accurately locate private utilities, Terracon can assist the City/County by coordinating or subcontracting with a private utility locating services. Fees associated with the additional services **are not included** in our current Scope of Services and will be forwarded to our client for approval prior to initiating. The detection of underground utilities is dependent upon the composition and construction of the utility line; some utilities are comprised of non-electrically conductive materials and may not be readily detected. The use of a private utility locate service would not relieve the owner of their responsibilities in identifying private underground utilities. Based on the locations being in the public right-of-way, we do not anticipate that any private utilities will be present.

Site Access: Terracon must be granted access to the site by Lake County. By acceptance of this proposal, without information to the contrary, we consider this as authorization to access the property for conducting field exploration in accordance with the Scope of Services. Our Scope includes traffic control services for performing the pavement cores and GPR surveys. As Deerfield Parkway has two traffic lanes in each direction, we anticipate that lane closures using signage, cones, and an arrow board will be sufficient and meet Lake County requirements. Our proposal assumes that Kimley-Horn will obtain any necessary City, Village, or County permits required to perform our Scope of Services. If Terracon is required to obtain any permitting, additional fees will apply.

Laboratory Testing

If soil samples are obtained during hand augering, the project engineer will review field data and assign laboratory tests to understand the engineering properties of various soil strata. Exact types and number of tests cannot be defined until completion of field work. The anticipated laboratory testing may include the following:

- Water content

Our laboratory testing program includes examination of soil samples by an engineer. Based on the texture and plasticity, we will describe and classify soil samples in accordance with the Unified Soil Classification System (USCS).

Project Delivery

Your project will be delivered using our ***GeoReport***® system. Upon initiation, we provide you and your design team the necessary link and password to access the website (if not previously registered). Each project includes a calendar to track the schedule, an interactive site map, a listing of team members, access to the project documents as they are uploaded to the site, and a collaboration portal. The typical delivery process includes the following:

- Project Planning – Proposal information, schedule and anticipated exploration plan will be posted for review and verification
- Site Characterization – Findings of the site exploration

When services are complete, we upload a printable version of our completed subsurface exploration report, including the professional engineer's signature, which documents our services. Previous submittals, collaboration and the report are maintained in our system. This allows future reference and integration into subsequent aspects of our services as the project goes through final design and construction.

The subsurface exploration report will provide the following:

- Photographs of recovered pavement cores and table of pavement section thicknesses;
- Site and core location plans;
- Coring procedures;
- Summary and analysis of GPR data, including electronic drawing file showing locations of identified voids and anomalies;
- DCP test results and subsurface conditions (if DCP option is exercised);
- Laboratory test results (if performed)

EXHIBIT C - COMPENSATION AND PROJECT SCHEDULE

Compensation

Based upon our understanding of the site, the project as summarized in **Exhibit A**, and our planned Scope of Services outlined in **Exhibit B**, our lump sum fee is shown in the following table, including approximate breakdowns of fees by task:

Task	Lump Sum Fee
Pavement Coring, Including Traffic Control	$11,200
GPR Survey, Including Analysis and Reporting (Assumes GPR completed during coring traffic control setup)	$6,500
Subsurface Exploration Report and Consulting	$2,000
Total Lump Sum	**$19,700**
Optional – DCP Testing and Reporting (Assumed 8 test locations completed at same time as coring)	+$600 ($75/test)

The fee includes the cost of a union drill crew to perform the cores, and considers that Prevailing Wage requirements are in effect. Any delays/downtime caused by others will be invoiced at a rate of $400 per hour.

Our Scope of Services does not include services associated with wet ground conditions, permit delays, or repair of/damage to existing landscape. If such services are desired by the owner/client, we should be notified so we can adjust our Scope of Services.

Unless instructed otherwise, we will submit our invoice(s) to the address shown at the beginning of this proposal. If conditions are encountered that require Scope of Services revisions and/or result in higher fees, we will contact you for approval, prior to initiating services. A supplemental proposal stating the modified Scope of Services as well as its effect on our fee will be prepared. We will not proceed without your authorization.

Project Schedule

We developed a schedule to complete the Scope of Services based upon our existing availability and understanding of your project schedule. However, this does not account for delays in field exploration beyond our control, such as weather conditions, permit delays, or lack of permission to access the boring locations. In the event the schedule provided is inconsistent with your needs, please contact us so we may consider alternatives.

GeoReport® Delivery	Business Days from Notice to Proceed [1, 2]
Project Planning	2 days

***GeoReport*® Delivery**	**Business Days from Notice to Proceed** [1, 2]
Site Characterization	15 days

1. Upon receipt of your notice to proceed we will activate the schedule component of our ***GeoReport*®** website with specific, anticipated calendar days for the three delivery points noted above as well as other pertinent events such as field exploration crews on-site, etc.
2. We will maintain a current calendar of activities within our ***GeoReport*®** website. In the event of a need to modify the schedule, the schedule will be updated to maintain a current awareness of our plans for delivery.

EXHIBIT D – SITE LOCATION

Deerfield Parkway Pavement Exploration ■ Buffalo Grove, Illinois

November 13, 2019 ■ Terracon Proposal No. PMR195247-R1

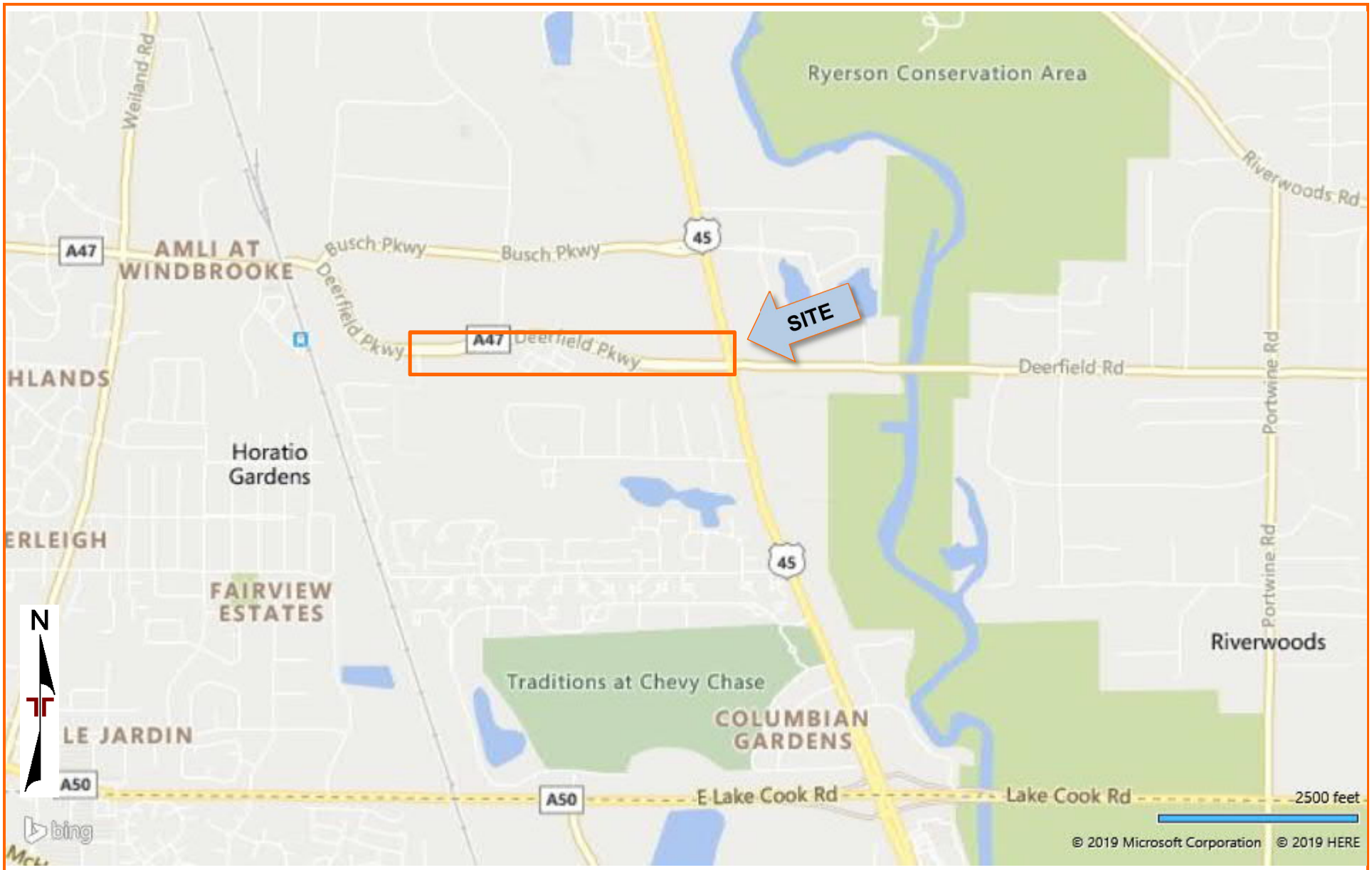

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXHIBIT E – ANTICIPATED EXPLORATION PLAN

Deerfield Parkway Pavement Exploration ■ Buffalo Grove, Illinois

November 13, 2019 ■ Terracon Proposal No. PMR195247-R1

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS