


Municipality	L O C A L  A G E N C Y	 <b>Illinois Department of Transportation</b>	C O N S U L T A N T	Name Gewalt Hamilton Associates, Inc
Township				Address 625 Forest Edge Drive
County Lake County – Division of Transportation		<b>Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds</b>		City Vernon Hills
Section 17-00999-32-RS				State IL

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 Kilbourne Road / 9<sup>th</sup> Street / Kenosha Road Resurfacing

Route Various Length 3.84 Mi. 20,254 FT (Structure No. N/A )

Termini Kilbourne – Russell Rd to IL Rte 173 / 9<sup>th</sup> – IL Rte 131 to Lewis Ave. / Kenosha – 21 St. to IL Rte 173

Description: Project includes the milling and resurfacing at various depths of Kilbourne Rd, 9<sup>th</sup> and Kenosha Rd at the limits identified above. Included as part of this project is improvements to double barrel 60" CMP culverts under Kenosha Rd

### 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 \$260,799.82**

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.

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**It is Mutually Agreed,**

- 1. That any difference between the ENGINEER and the LA concerning their interpretation of the provisions of this Agreement shall be referred to a committee of disinterested parties consisting of one member appointed by the ENGINEER, one member appointed by the LA and a third member appointed by the two other members for disposition and that the committee's decision shall be final.
- 2. This AGREEMENT may be terminated by the LA upon giving notice in writing to the ENGINEER at the ENGINEER's last known post office address. Upon such termination, the ENGINEER shall cause to be delivered to the LA all surveys, permits, agreements, preliminary bridge design & hydraulic report, drawings, specifications, partial and completed estimates and data, if any from traffic studies and soil survey and subsurface investigations with the understanding that all such material becomes the property of the LA. The ENGINEER shall be paid for any services completed and any services partially completed in accordance with section 4 of the LA AGREES.
- 3. That if the contract for construction has not been awarded one year after the acceptance of the plans by the LA ~~and their approval by the DEPARTMENT~~, the LA will pay the ENGINEER the balance of the engineering fee due to make 100 percent of the total fees due under this AGREEMENT, based on the estimate of cost as prepared by the ENGINEER and approved by the LA ~~and the DEPARTMENT~~.
- 4. That the ENGINEER warrants that the ENGINEER has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER, to solicit or secure this contract, and that the ENGINEER's has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, brokerage fee, gifts or any other consideration, contingent upon or resulting from the award or making of this contract. For Breach or violation of this warranty the LA shall have the right to annul this contract without liability.

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

Executed by the LA:

ATTEST:

By

Lake County

Clerk

(Seal)

County of Lake

(Municipality/Township/County)

of the

State of Illinois, acting by and through its

County Board

By

Title

Chairman of the County Board

RECOMMENDED FOR EXECUTION

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

Executed by the ENGINEER:

ATTEST:

By

Title

Gewalt Hamilton Associates, Inc.

Engineering Firm

625 Forest Edge Drive

Street Address

Vernon Hills, IL 60061

City, State

By

Title

Michael T. Shrake, President

# Exhibit A

## Scope of Services

## EXHIBIT A – SCOPE OF SERVICES

### Phase II Design Engineering Services Lake County Division of Transportation

Kilbourne Road Resurfacing from IL Rte. 173 to Russell Road

9<sup>th</sup> Street Resurfacing from IL Rte. 131 to Lewis Avenue

Kenosha Road Resurfacing from 21<sup>st</sup> Street to IL Rte. 173

Section No. 17-00999-32-RS

September 18, 2017

Gewalt Hamilton Associates, Inc. (GHA) will provide Phase II Design Engineering Services to the Lake County Division of Transportation (LCDOT) for the resurfacing of the following routes:

- Kilbourne Road Resurfacing from IL Rte. 173 to Russell Road. The length of the improvement is approximately 9,252 ft. (1.75 miles) along Kilbourne Road. The improvements will generally consist of a 2-1/2" HMA surface removal, placement of 3/4" HMA leveling course, 2-1/4" HMA binder course and 1-1/2" HMA surface course.
- 9<sup>th</sup> Street Resurfacing from IL Rte. 131 to Lewis Avenue. The length of the improvement is approximately 8,260 ft. (1.56 miles) along Kilbourne Road. The improvements will generally consist of 2" to 2-1/4" HMA surface removal, placement of 3/4" HMA leveling course, 2-1/4" HMA binder course and 1-1/2" HMA surface course.
- Kenosha Road Resurfacing from 21<sup>st</sup> Street to IL Rte. 173. The length of the improvement is approximately 2,742 ft. (0.52 miles) along Kilbourne Road. The improvements will generally consist of 1-1/2" HMA surface removal, placement of 1-1/2" HMA surface course. Included is the improvements to a double barrel 60" CMP culvert under Kenosha Road.

GHA will be responsible for completing final PS&E no later than April 14, 2017 for a Letting Date of May 16, 2017.

#### **Task 1 – Project Administration and Management**

LCDOT Kick-off meeting: GHA will attend a kick-off meeting with LCDOT staff to discuss the Phase II design for the Fairfield Road Resurfacing Project to determine milestone schedule, including project specific requirements, and overall project scope. It is understood that the LCDOT will require one (1) review.

Project Coordination: GHA will coordinate the improvements along Kilbourne Road, 9<sup>th</sup> Street and Kenosha Road with various other agencies, including: Illinois Department of Transportation (IDOT) and Utility Companies as necessary. GHA will also coordinate with the City of Zion and the Lake County Stormwater Management Commission (LCSMC) for the improvements to the double barrel 60" CMP culverts under Kenosha Road.

#### **Task 2 – Data Collection and Topographic Survey**

Data Collection: GHA will conduct field review with LCDOT staff to determine the overall scope of the project as well as identifying the limits of improvements.

Topographic Survey: GHA will conduct the necessary topographic survey of the existing sidewalk curb ramps within the project limits including the intersections of Countrywood Drive at 9<sup>th</sup> Street. In addition, GHA will conduct topographic survey of miscellaneous areas requiring detailed elevations for areas identified in the Lake County Scoping Reports. GHA will establish the alignment and ties.

All required survey will follow LCDOT design survey procedures (Attachment 4). The alignment and survey will be established using state plane coordinates and NAVD88 datum.

### **Task 3 – Pre-Final Plans, Special Provisions, and Estimates (90%)**

Pre-Final Plans: GHA will develop pre-final plans for the resurfacing of Kilbourne Road, 9<sup>th</sup> Street and Kenosha Road based on field survey, field inspections, and the LCDOT scoping report for the proposed project.

Pre-Final Special Provisions: GHA will prepare the final contract special provisions booklet, GHA will include the IDOT Supplemental and Recurring Special Provision checklist, BDE Special Provision checklist, and project specific special provisions required for the contract.

Pre-Final Estimates: GHA will prepare pre-final estimates of cost and time based on the summary of quantities calculated for the pre-final plans.

Pre-Final Review: GHA will submit pre-final plans to the LCDOT, as determined in the kick-off meeting, to provide sufficient time for review and comment.

### **Task 4 – Final Plans, Special Provisions and Estimates (100%)**

Final Plans: All comments received pertaining to the pre-final plans will be addressed and a disposition to comments will be provided and changes will be incorporated into the final engineering plans.

Final Special Provisions: All comments received pertaining to the pre-final special provisions will be addressed and a disposition to comments will be provided.

Final Quantity Calculations: The quantities will be updated based on changes made to the plans after the pre-final plan review.

Final Estimates: The final estimates of cost and time will be updated based on the revised quantities.

### **Task 5 – Hydrologic and Hydraulic Analysis**

As described in the LCDOT scoping report, there are mapped floodplains adjoining to the double barreled 60" CMP culverts under Kenosha Road.

Topographic Survey: GHA will conduct necessary topographic survey of the existing double barrel 60" CMP culvert under Kenosha Road if it is determined to be replaced.

To determine if the existing culvert(s) are adequately sized, GHA will perform a hydrologic analysis of the tributary watershed to determine the discharge rate for the design storm selected by DOT and a hydraulic analysis assuming a new culvert of the same size and material to determine the maximum headwater elevation. If the maximum headwater elevation does not meet County design criteria, GHA will propose a new culvert size, configuration, and/or material to meet these criteria. The hydraulic analysis will be limited to the culvert inlet/outlet control only, and will not include modeling of the stream to determine backwater/tailwater effects.

## **Task 6 – Wetland Delineation/Jurisdictional Determination**

As described in the LCDOT scoping report, the Lake County Wetland Inventory Map indicates there are wetland areas adjoining to the double barreled 60" CMP culvert under Kenosha Road.

A jurisdictional determination as well as wetland delineations will be needed for culverts located in a wetland. Depending on the jurisdiction, wetland permits would be needed from the US Army Corps of Engineers or the Lake County Stormwater Management Commission (LCSMC).

**Wetland Delineation:** GHA will delineate Waters of the U.S. (WOUS), including wetlands, in conformance with Local and County ordinances and the U.S. Army Corps of Engineers (USACE). Prepare Wetland Delineation Report summarizing the findings. The delineation shall be limited to the area within the County right-of-way and in the areas to be disturbed by the proposed culvert construction.

**Wetland Boundary Confirmation and Jurisdictional Determination:** GHA will submit a formal request for a jurisdictional determination and boundary confirmation to the USACE and Lake County as well as coordinate a site visit.

## **Task 7 – Permitting**

**Lake County Stormwater Management (LCSMC) Permitting:** A watershed development permit application will be submitted for the replacement of the double barrel 60" CMP culvert (if required to be replaced). Prior to applying for the permit GHA will schedule a pre-application meeting with Lake County SMC staff and the Army Corps (if possible) to review the permit requirements

**Wetland Permitting:** If the double barrel 60" CMP culverts require replacement, and if the culvert replacement will impact jurisdictional wetlands, the required data and project information will be compiled and assembled into a permit application submittal package and submitted to the jurisdictional agencies for review and approval. This task will include coordination with, at a minimum, the City of Zion, Lake County Stormwater Management Commission, U.S. Army Corps of Engineers, Lake County Soil & Water Conservation District, U.S. Fish & Wildlife Service and Illinois Department of Natural Resources. During the permit review process, follow-up meetings with the regulatory agencies and LCDOT are anticipated to finalize the required information, documentation, and submittals.

## **Task 8 – CCDD Spoil Management**

If the double barrel 60" CMP culverts require replacement, GHA will utilize the services of Huff & Huff to perform soil management services for documentation of final disposition at Clean Construction and Demolition Debris (CCDD) facilities. Huff & Huff's proposal dated September 15, 2017 is attached (Attachment 1) to this proposal.

## **Task 9 – Geotechnical Report**

If the double barrel 60" CMP culverts require replacement, GHA will utilize the services of Soils Materials Consultants (SMC) to obtain two (2) soil borings and provide a geotechnical report for a new drainage structure at Kenosha Road south of IL Rte 173. We have included man-hours for coordination with SMC and to attend one (1) pre-boring meeting with the County to discuss the scope and schedule of the boring work. A copy of SMC's proposal dated September 19, 2017 is attached (Attachment 2) to this proposal.

## **Task 10 – Subsurface Utility Locates**

If needed to determine possible conflicts of existing utilities with the proposed double barrel 60" CMP culvert replacement, GHA will coordinate and utilize the services of Badger Daylighting to conduct non-destructive utility locates. We will work with the LCDOT Utility Coordinator, Badger Daylighting, and the respective facility owners to



verify/confirm utility elevations at critical crossings. This is a contingency service to be used as needed. We have included one (1) day in the man-hour and fee calculations and for a GHA representative to be in the field with contractor. A copy of Badger Daylighting's proposal dated September 19, 2017 is attached (Attachment 3) to this proposal.

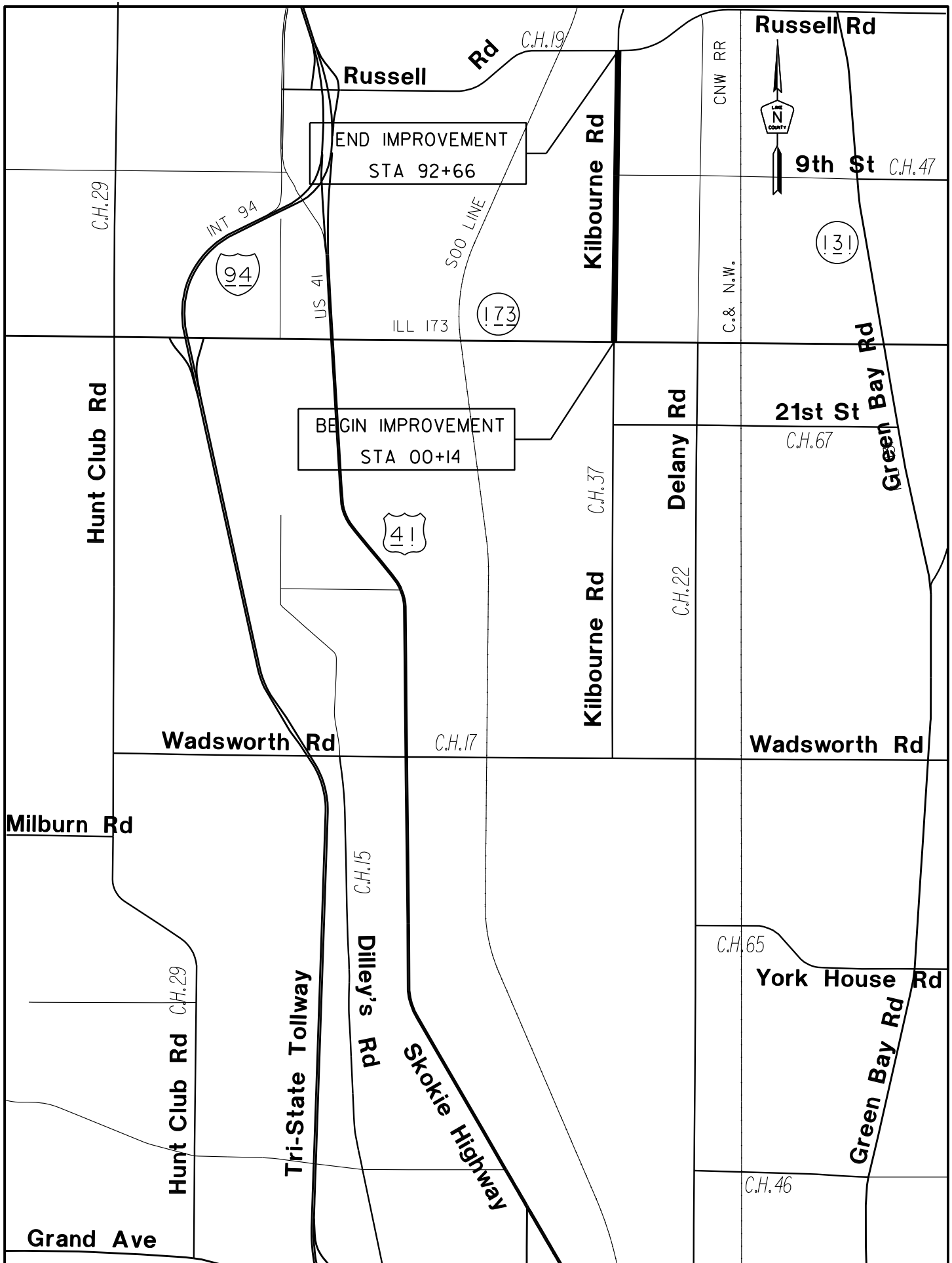
#### **Task 11 – Plat of Highway, Legal Descriptions, Title Commitments**

GHA will prepare the Plat of Highways, Legal Descriptions and obtain the title commitments of the parcels proposed for acquisition in accordance with the current LCDOT Plats Guidelines. There are four (4) parcels adjoining the CMP culvert replacement project limits with potential right-of-way and easement acquisitions. We will coordinate and order the title commitments. We anticipate utilizing the services of Wheatland Title Company for the title commitments. We will utilize and estimate of \$500.00 per title commitment.

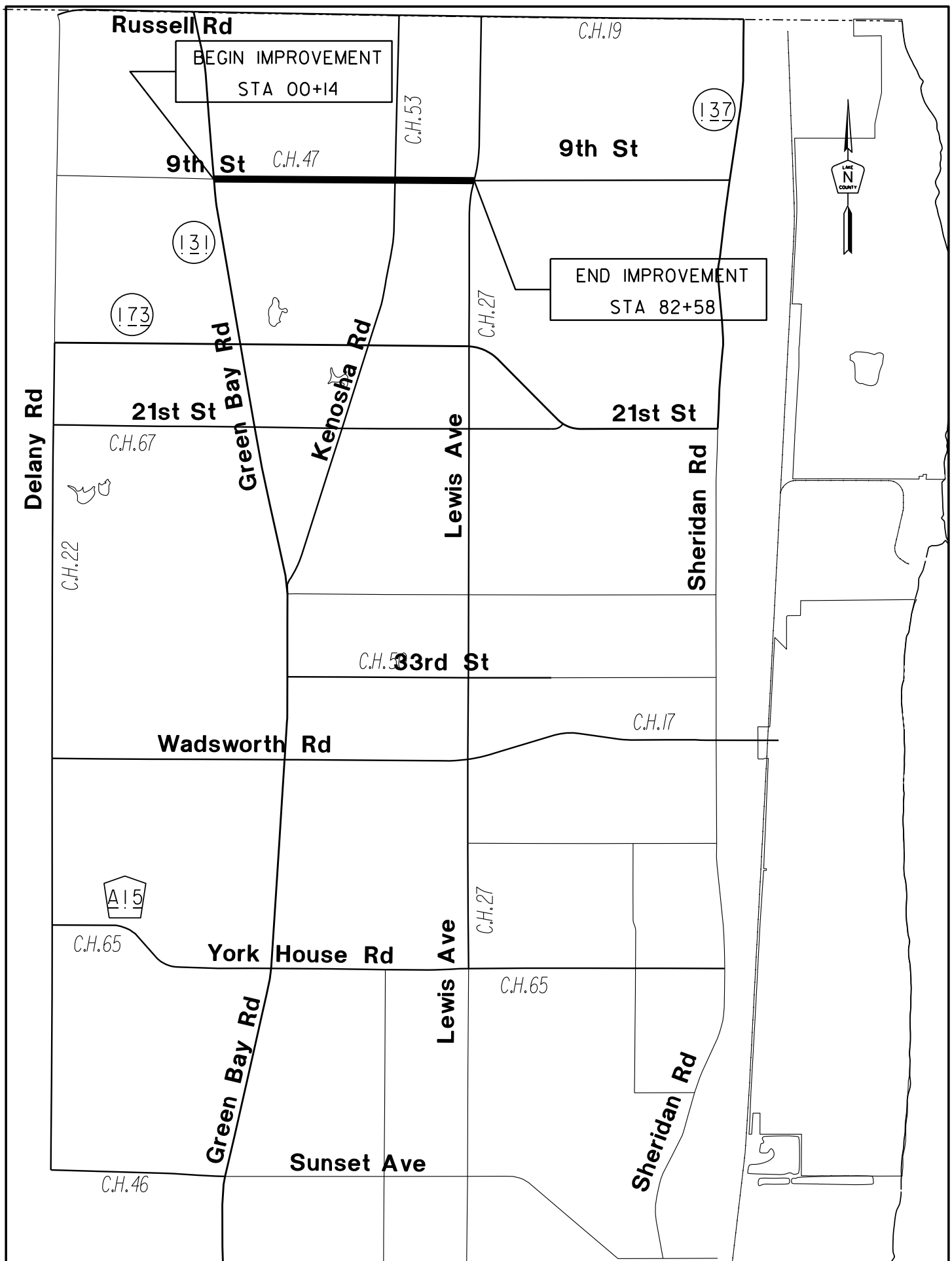
#### **Task 12 – Quality Assurance / Quality Control**

Pre-Final QA/QC Review: Prior to submission of pre-final plans to the LCDOT for review, GHA will perform an internal Quality Assurance / Quality Control review of the completed design. 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 required pay items, quantities of work, and special provisions required.

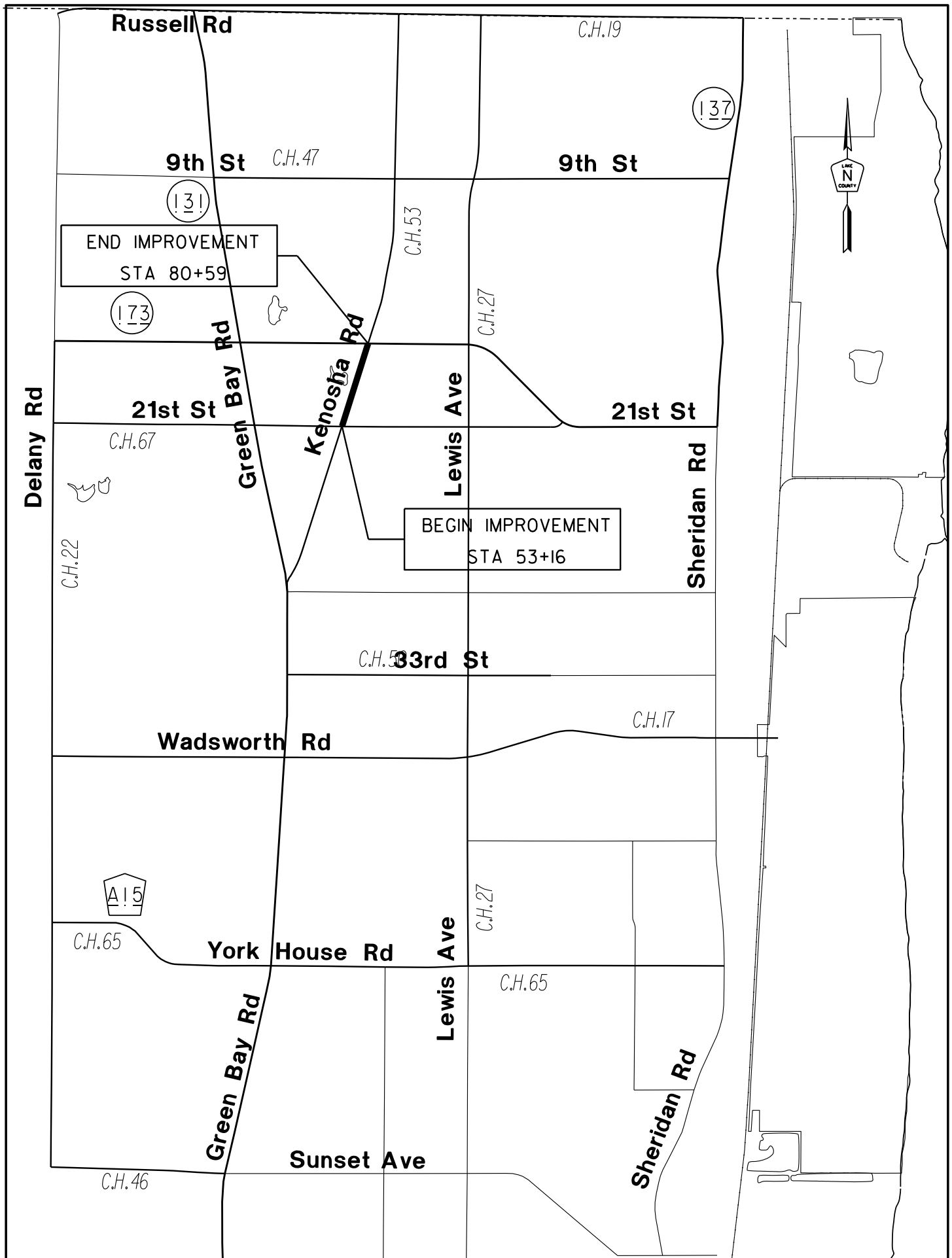
Final QA/QC Review: Prior to submission of final plans to the LCDOT, GHA will perform a second QA/QC review of the plans and special provisions.



LOCATION MAP



## LOCATION MAP



LOCATION MAP

## Exhibit B

### Anticipated Plan Sheets

## EXHIBIT B – ANTICIPATED PLAN SHEETS

Phase II Design Engineering Services  
Lake County Division of Transportation

Kilbourne Road Resurfacing from IL Rte. 173 to Russell Road  
9<sup>th</sup> Street Resurfacing from IL Rte. 131 to Lewis Avenue  
Kenosha Road Resurfacing from 21<sup>st</sup> Street to IL Rte. 173

Section No. 17-00999-32-RS

September 18, 2017

<u>Anticipated Plan Sheets</u>		<u>No. of Sheets</u>
1.	Cover Sheet	1
2.	LCDOT General Notes	3
3.	Summary of Quantities	3
4.	Schedule of Quantities	32
5.	Alignment, Ties and Benchmarks	4
6.	Typical Sections	2
7.	Traffic Control Plan	14
8.	Removal and Adjust Sheets	20
9.	Plan Sheets	20
10.	Sidewalk Grading Plan (To be determined)	1
11.	Culvert Replacement (To be determined)	2
12.	Sediment and Erosion Control Plan	5
13.	Project Details / Standards	<u>45</u>
Anticipated Total Sheets:		152

## Exhibit C

### Estimate of Direct Costs



TODAY'S DATE: **9/18/2017**

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

J.S. = Job Specific



## Exhibit D

### Man-Hour and Fee Estimate

	Principal	CE VI	CE V	CE IV	CE III	CE II	CE I	LS IV	LS II	LS I	GISP I	EC I	ET V	ET IV	ET III	ET II	ET I	AD I	Total Hours
<b>I. Project Administration and Management</b>																			
Meetings		4	8	8														2	22
Coordination with Agencies			8	24			12											2	46
Project Management		12	40	80										24				16	172
Utility Coordination as Necessary			6	16			24											8	54
I. Category Subtotal	0	16	62	128	0	0	36	0	0	0	0	0	0	24	0	0	0	28	294
<b>II. Data Collection and Topographic Survey</b>																			
Confirm Field Control								4											4
Alignment and Ties								20											20
Miscellaneous Survey per Scoping Report									24										24
Reduction of Field Survey (Office)																24			24
Field Investigation of Drainage Culverts				8			8												16
Site Visit with LCDOT Staff			4	4			4												12
Obtain and review existing plans			4	8			12												24
II. Category Subtotal	0	0	8	20	0	0	24	24	24	0	0	0	0	0	0	24	0	0	124
<b>III. Pre-Final Plans, Special Provisions, and Estimates</b>																			
A. Pre-Final Plans																			
Cover Sheet, General Notes, Standards				2			8												10
Summary of Quantities			4	8			4												16
Schedule of Quantities							12												12
Typical Sections				4	16														20
Traffic Control Plan				8	32		16				4			32					92
Removal and Adjustment Plan			8	32	64		24				4			80					212
Resurfacing Plans			8	32	64		24				4			80					212
Sidewalk Grading Plan				2			16												18
Culvert Replacement Plan			8	24			8												40
Culvert Replacement MOT			4				16							16					36
Erosion and Sediment Control Plan				2			8												10
Details and Standards				2			4							24					30
B. Pre-Final Special Provisions																			
Recurring and Supplemental Special Provisions				2	4														6
BDE Special Provisions				2	4														6
Project Specific Special Provisions			8	24	16													24	72

	Principal	CE VI	CE V	CE IV	CE III	CE II	CE I	LS IV	LS II	LS I	GISP I	EC I	ET V	ET IV	ET III	ET II	ET I	AD I	Total Hours
C. Pre-Final Schedule of Quantities			8	24	40		32							32					136
D. Pre-Final Estimate of Cost and Time			4	6			8												18
E. Pre-Final Meeting with LCDOT			4	4			4											2	14
III. Category Subtotal	0	0	56	178	240	0	184	0	0	0	12	0	0	264	0	0	0	26	960
<b>IV. Final Plans, Special Provisions, and Estimates</b>																			
A. Final Plans																			
Cover Sheet, General Notes, Standards							2												2
Summary of Quantities				2			4												6
Schedule of Quantities			2	4			8												14
Typical Sections				2			4												6
Traffic Control Plan				4			8				2			4					18
Removal and Adjustment Plan				4	4		16				2			4					30
Resurfacing Plans			2	6	4		16							4					32
Sidewalk Grading Plan				2			4												6
Culvert Replacement Plan			2	8										8					18
Culvert Replacement MOT			2	4										16					22
Erosion and Sediment Control Plan							12												12
Details and Standards							4							8					12
B. Final Special Provisions																			
Recurring and Supplemental Special Provisions							2												2
BDE Special Provisions							2												2
Project Specific Special Provisions			4	8	4													8	24
C. Final Schedule of Quantities			2	4	8		8							12					34
D. Final Estimate of Cost and Time			2	2															4
E. Final Meeting with LCDOT		4	4				4												12
IV. Category Subtotal	0	4	20	50	20	0	94	0	0	0	4	0	0	56	0	0	0	8	256
<b>V. Hydrologic and Hydraulic Analysis</b>																			
Field Survey Existing Culvert/Reduction			2	2				2	12							8			26
Evaluation/Analysis of Culvert			8	12										16					36
Hydraulic Model			8	16			4												28
V. Category Subtotal	0	0	18	30	0	0	4	2	12	0	0	0	0	16	0	8	0	0	90

	Principal	CE VI	CE V	CE IV	CE III	CE II	CE I	LS IV	LS II	LS I	GISP I	EC I	ET V	ET IV	ET III	ET II	ET I	AD I	Total Hours
<b>VI. Wetlant Delineation / Jurisdictional Determination</b>																			
Delineation & Report			4									16							20
VI. Category Subtotal	0	0	4	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	20
<b>VII. Permitting</b>																			
SMC Permitting			4	8								16							28
ACOE Permitting			4	8								24							36
VII. Category Subtotal	0	0	8	16	0	0	0	0	0	0	0	40	0	0	0	0	0	0	64
<b>VIII. CCDD Soil Management</b>																			
Coordination with Huff & Huff				4															4
VIII. Category Subtotal	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
<b>IX. Geotechnical Report</b>																			
Coordination with SMC and LCDOT				8															8
IX. Category Subtotal	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
<b>X. Subsurface Utility Locates</b>																			
Coordination with Badger				4															4
Field Observation							12			4									16
X. Category Subtotal	0	0	0	4	0	0	12	0	0	4	0	0	0	0	0	0	0	0	20
<b>XI. Plat of Highway, Legal Description, Title Commitments</b>																			
Field Work - Recon/Control/Boundary Survey			2					32											34
Office Work-Prep POH & Legal Des/Review Title				2				40									4		46
Pre-Final POH/Legals/Titles			2	2				16											20
Final POH/Legals/Titles				2				8											10
Coordination with Title Co.								2											2
XI. Category Subtotal	0	0	4	6	0	0	0	98	0	0	0	0	0	0	0	0	0	4	112

	Principal	CE VI	CE V	CE IV	CE III	CE II	CE I	LS IV	LS II	LS I	GISP I	EC I	ET V	ET IV	ET III	ET II	ET I	AD I	Total Hours
<b>XII. Quality Assurance / Quality Control</b>																			
Pre-Final QA/QC Review		24	48					4											76
Final QA/QC Review		8	16					2											26
XII. Category Subtotal	0	32	64	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	102
Total Man-Hours																			2054

PAYROLL ESCALATION TABLE  
FIXED RAISES  
COST PLUS FIXED FEE

FIRM NAME Gewalt Hamilton Associates, Inc - Exhibit D  
PRIME/SUPPLEMENT Prime

DATE 09/19/17  
PTB NO. \_\_\_\_\_

CONTRACT TERM 12 MONTHS  
START DATE 10/1/2017  
RAISE DATE 5/1/2018

OVERHEAD RATE 154.90%  
COMPLEXITY FACTOR 0  
% OF RAISE 3.00%

ESCALATION PER YEAR

<div>10/1/2017 - 5/1/2018</div> <div><div>7</div><div>12</div></div>	<div>5/2/2018 - 10/1/2018</div> <div><div>5</div><div>12</div></div>	<div></div> <div></div>	<div></div> <div></div>	<div></div> <div></div>
= 58.33%	42.92%			
= 1.0125				
The total escalation for this project would be:		1.25%		

# PAYROLL RATES

FIRM NAME Gewalt Hamilton Associ DATE 09/19/17  
 PRIME/SUPPLEMENT Prime  
 PSB NO. \_\_\_\_\_

ESCALATION FACTOR 1.25%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
Principal	\$68.83	\$69.69
Civil Engineer VI	\$62.30	\$63.08
Civil Engineer V	\$56.95	\$57.66
Civil Engineer IV	\$49.55	\$50.17
Civil Engineer III	\$39.09	\$39.58
Civil Engineer II	\$34.00	\$34.43
Civil Engineer I	\$26.13	\$26.46
Land Surveyor IV	\$44.88	\$45.44
Land Surveyor II	\$33.06	\$33.47
Land Surveyor I	\$27.50	\$27.84
GIS Professional I	\$29.00	\$29.36
Environmental Consultant II	\$29.50	\$29.87
Engineer Tech V	\$56.75	\$57.46
Engineer Tech IV	\$37.21	\$37.68
Engineer Tech III	\$30.55	\$30.93
Engineer Tech II	\$25.53	\$25.85
Engineer Tech I	\$16.56	\$16.77
Administration	\$24.15	\$24.45
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00

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

09/19/17

[illegible]

**DBE 0.00%**



## AVERAGE HOURLY PROJECT RATES

<b>FIRM</b>	<u>Gewalt Hamilton Associates, Inc - Exhibit D</u>
<b>PSB</b>	<u></u>
<b>PRIME/SUPPLEMENT</b>	<u>Prime</u>

**DATE** 09/19/17

**SHEET**      1    OF    5

PAYROLL  CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Proj Admin & Manage			Data Coll, Survey			Pre-Final PS&E			Final PS&E			Hydraulic Analysis		
		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	69.69	0																	
Civil Engineer VI	63.08	52	2.53%	1.60	16	5.44%	3.43							4	1.56%	0.99			
Civil Engineer V	57.66	244	11.88%	6.85	62	21.09%	12.16	8	6.45%	3.72	56	5.83%	3.36	20	7.81%	4.50	18	20.00%	11.53
Civil Engineer IV	50.17	444	21.62%	10.84	128	43.54%	21.84	20	16.13%	8.09	178	18.54%	9.30	50	19.53%	9.80	30	33.33%	16.72
Civil Engineer III	39.58	260	12.66%	5.01							240	25.00%	9.89	20	7.81%	3.09			
Civil Engineer II	34.43	0																	
Civil Engineer I	26.46	354	17.23%	4.56	36	12.24%	3.24	24	19.35%	5.12	184	19.17%	5.07	94	36.72%	9.71	4	4.44%	1.18
Land Surveyor IV	45.44	130	6.33%	2.88				24	19.35%	8.80							2	2.22%	1.01
Land Surveyor II	33.47	40	1.95%	0.65				24	19.35%	6.48							12	13.33%	4.46
Land Surveyor I	27.84	0																	
GIS Professional I	29.36	16	0.78%	0.23							12	1.25%	0.37	4	1.56%	0.46			
Environmental Consult	29.87	56	2.73%	0.81															
Engineer Tech V	57.46	0																	
Engineer Tech IV	37.68	360	17.53%	6.60	24	8.16%	3.08				264	27.50%	10.36	56	21.88%	8.24	16	17.78%	6.70
Engineer Tech III	30.93	0																	
Engineer Tech II	25.85	32	1.56%	0.40				24	19.35%	5.00							8	8.89%	2.30
Engineer Tech I	16.77	0																	
Administration	24.45	66	3.21%	0.79	28	9.52%	2.33				26	2.71%	0.66	8	3.13%	0.76			
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
TOTALS		2054	100%	\$41.22	294	100.00%	\$46.08	124	100%	\$37.21	960	100%	\$39.02	256	100%	\$37.56	90	100%	\$43.90

## AVERAGE HOURLY PROJECT RATES

FIRM	<u>Gewalt Hamilton Associates, Inc - Exhibit D</u>
PSB	<u></u>
PRIME/SUPPLEMENT	<u>Prime</u>

**DATE** 09/19/17

**SHEET**      2      **OF**      5

PAYROLL	AVG	Wetland Delineation			Permitting			CCDD Soil Management			Geotechnical Report			Subsurface Utility Locate			POH, Legals, Titles		
CLASSIFICATION	HOURLY RATES	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	69.69																		
Civil Engineer VI	63.08																		
Civil Engineer V	57.66	4	20.00%	11.53	8	12.50%	7.21										4	3.57%	2.06
Civil Engineer IV	50.17				16	25.00%	12.54	4	100.00%	50.17	8	100.00%	50.17	4	20.00%	10.03	6	5.36%	2.69
Civil Engineer III	39.58																		
Civil Engineer II	34.43																		
Civil Engineer I	26.46													12	60.00%	15.87			
Land Surveyor IV	45.44																98	87.50%	39.76
Land Surveyor II	33.47													4	20.00%	6.69			
Land Surveyor I	27.84																		
GIS Professional I	29.36																		
Environmental Cons	29.87	16	80.00%	23.90	40	62.50%	18.67												
Engineer Tech V	57.46																		
Engineer Tech IV	37.68																		
Engineer Tech III	30.93																		
Engineer Tech II	25.85																		
Engineer Tech I	16.77																		
Administration	24.45																4	3.57%	0.87
TOTALS		20	100%	\$35.43	64	100%	\$38.42	4	100%	\$50.17	8	100%	\$50.17	20	100%	\$32.60	112	100%	\$45.38

## AVERAGE HOURLY PROJECT RATES

<b>FIRM</b>	<u>Gewalt Hamilton Associates, Inc - Exhibit D</u>
<b>PSB</b>	<u></u>
<b>PRIME/SUPPLEMENT</b>	<u>Prime</u>

**DATE** 09/19/17

**SHEET      3      OF      5**

PAYROLL	AVG	QA/QC																	
CLASSIFICATION	HOURLY RATES	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	69.69																		
Civil Engineer VI	63.08	32	31.37%	19.79															
Civil Engineer V	57.66	64	62.75%	36.18															
Civil Engineer IV	50.17																		
Civil Engineer III	39.58																		
Civil Engineer II	34.43																		
Civil Engineer I	26.46																		
Land Surveyor IV	45.44	6	5.88%	2.67															
Land Surveyor II	33.47																		
Land Surveyor I	27.84																		
GIS Professional I	29.36																		
Environmental Cons	29.87																		
Engineer Tech V	57.46																		
Engineer Tech IV	37.68																		
Engineer Tech III	30.93																		
Engineer Tech II	25.85																		
Engineer Tech I	16.77																		
Administration	24.45																		
TOTALS		102	100%	\$58.64	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00

# Exhibit E

## Subconsultant Proposals & LCDOT Procedures and Guidelines

# Attachment 1

Huff & Huff Inc.



A Subsidiary of GZA

GEOTECHNICAL

ENVIRONMENTAL

ECOLOGICAL

WATER

CONSTRUCTION  
MANAGEMENT

915 Harger Road  
Suite 330  
Oak Brook, IL 60523  
T: 630.684.9100  
F: 630.684.9120  
www.huffnhuff.com  
www.gza.com



September 15, 2017

Mr. Todd P. Gordon, P.E.  
Associate/Senior Transportation Engineer  
Gewalt Hamilton Associates, Inc.  
625 Forest Edge Drive  
Vernon Hills, Illinois 60061

via email: [tgordon@gha-engineers.com](mailto:tgordon@gha-engineers.com)

**Re: CCDD Spoils Management Assistance  
Kenosha Road, Zion, Lake County, Illinois  
Proposal No.: 81.PB00042.18**

Dear Mr. Gordon:

Huff & Huff, Inc. a subsidiary of GZA GeoEnvironmental, Inc. (H&H) is pleased to submit this proposal to Gewalt Hamilton Associates, Inc., (Client) to perform soil management services for documentation of final disposition at Clean Construction and Demolition Debris (CCDD) facilities. This proposal presents our project approach, the scope of services, cost, and schedule for completing the project.

## **1. INTRODUCTION**

Per a discussion with Client, Consultant understands Lake County Division of Transportation (LCDOT) is seeking assistance with spoils management related to a proposed roadway improvement project along Kenosha Road with limits from 21<sup>st</sup> Street to IL Route 137 in Zion, Illinois. We understand that the project includes milling and resurfacing of the roadway which we do not anticipate generating spoils for off-site final disposition. However, the project also includes replacement of a double 60-inch diameter culvert system below the roadway in the northern portion of the project corridor. Excavation and off-site final disposition of spoils is anticipated to accommodate these improvements.

## **2. SCOPE OF SERVICES**

### **Task 1 – Records Search, Review, and Confirmation of Listings**

H&H will obtain a database to review and document PIPs associated with the project area. A site visit will be conducted to confirm the location and nature of identified sites and to also pre-mark proposed boring locations for utility locating purposes.

### **Task 2 – Soil / Sediment Sampling & Analysis**

Based on the database review, H&H will confirm a sampling protocol for the project corridor. Although we currently do not anticipate spoils from the milling/resurfacing, we have accounted for a series of soil borings, via hand auger to include the culvert area and also the roadway resurfacing areas. Sampling is proposed to be generally consistent with the depth of proposed improvements, currently assumed to extend from approximately 1 to 2 feet for resurfacing (if at all) and approximately 6 to 8 feet deep (from roadway surface) to accommodate the culvert replacement. Based on the assumed shallow depth of construction,



H&H anticipates collection of samples with a hand auger to control costs with culvert samples being collected from areas near the culverts to enable us to collect samples at appropriate depths via hand auger.

For budgetary purposes, H&H has developed a preliminary sampling protocol based on a preliminary review of the project area with at least two sites identified in the Illinois EPA Bureau of Land files and the following analyses are currently identified, including:

- Volatile organic compounds (VOCs, up to 1 sample);
- Benzene, toluene, ethylbenzene, and xylenes (BTEX, up to 2 samples);
- Semi-volatile organic compounds (SVOCs, up to 3 samples);
- RCRA metals via total method (up to 3 samples);
- RCRA metals via synthetic precipitation leaching or toxicity characteristic leaching procedure (SPLP or TCLP, up to 1 sample)
- Soil pH (multiple samples with a field meter consistent with CCDD regulations and up to 4 laboratory samples);

The analytical results will be compared to the Maximum Allowable Concentration (MAC) values to determine compliance with acceptance at a CCDD facility, including the pH range of 6.25 to 9.0. If the representative sample for non-volatile compounds does not achieve MAC values, supplemental analysis may be required on individual discreet samples. However, costs for supplemental analyses are not included in this proposal. Further, Client may decide to profile materials for disposal at a sanitary landfill if MAC values are not achieved. This task also includes the development of a project-specific health & safety plan for use when conducting field work on the project.

### **Task 3 – Preparation of LPC-663 Form**

Based on findings of the due diligence and if analytical results achieve the MAC values, H&H will prepare the proper LPC-Form documentation which includes a cover letter summary of the findings, the LPC-663 Form (H&H-signed), a narrative of the due diligence, sampling and results, and supporting documentation (figures, database, laboratory report). This packet of information will be provided to Client electronically and will be submitted to facilities on LCDOTs list of pre-approved CCDD facilities for review and pre-approval consideration.

## **3. PROJECT COSTS AND SCHEDULE**

The proposed fee is included on the attached IDOT cost plus fixed fee sheets. H&H will begin within 5 days of the notice to proceed with the final documentation to be submitted within 4 weeks of the notice to proceed.

## **4. TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES**

### **CONDITIONS OF ENGAGEMENT**

The conditions of engagement are proposed to be in accordance with the AGREEMENT between Gewalt Hamilton Associates, Inc., 625 Forest Edge Drive, Vernon Hills, Illinois 60061 ("GHA") and Huff & Huff, Inc. A subsidiary of GZA GeoEnvironmental located at 915 Harger Road, suite 330 Oak Brook, IL 60523 ("SUBCONSULTANT") dated May 15, 2015. The terms and conditions of the AGREEMENT will be reproduced by GHA and incorporated with each specific assigned work order.



## **ACCEPTANCE**

Upon issuance, both parties will execute the project specific Subconsultant Work Order consistent with the terms and conditions of the AGREEMENT.

We appreciate the opportunity to submit this proposal. Please feel free to contact the undersigned at (630) 684-9100 with any questions.

Very truly yours,

**Huff & Huff, Inc.**

Jeremy J. Reynolds  
Associate Principal





**Payroll Escalation Table  
Fixed Raises**

FIRM NAME Huff & Huff, Inc.  
PRIME/SUPPLEMENT Gewalt Hamilton Associates

DATE 9/15/2017  
PTB NO. \_\_\_\_\_

CONTRACT TERM 6 MONTHS  
START DATE 9/20/2017  
RAISE DATE 3/1/2018

OVERHEAD RATE 186.64%  
COMPLEXITY FACTOR 0  
% OF RAISE 3.00%

**ESCALATION PER YEAR**

9/20/2017 - 3/1/2018

3/2/2018 - 4/1/2018

5  
6

1  
6

= 83.33%  
= 1.0050

17.17%

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

**0.50%**



## Payroll Rates

FIRM NAME Huff & Huff, Inc. DATE 9/15/2017  
 PRIME/SUPPLEMENT Gewalt Hamilton Associates  
 PTB NO. \_\_\_\_\_

ESCALATION FACTOR 0.50%

CLASSIFICATION	CURRENT RATE	ESCALATED RATE
Senior Principal	\$70.00	\$70.00
Principal	\$70.00	\$70.00
Associate Principal II	\$70.00	\$70.00
Associate Principal I	\$53.54	\$53.81
Senior Consultant	\$66.94	\$67.27
Senior Geotechnical Consultant	\$61.91	\$62.22
Senior Project Manager III	\$57.69	\$57.98
Senior Project Manager II	\$40.93	\$41.13
Senior Landscape Architect	\$51.05	\$51.31
Senior Planning PM	\$45.89	\$46.12
Senior Geologist PM	\$41.60	\$41.81
Senior Technical Specialist	\$43.25	\$43.47
Senior Scientist PM II	\$44.75	\$44.97
Senior Scientist PM I	\$36.57	\$36.75
Senior Technical Scientist	\$35.02	\$35.20
Senior CADD Specialist	\$32.45	\$32.61
Scientist PM	\$41.32	\$41.53
Geologist PM	\$34.65	\$34.82
Engineer PM II	\$39.86	\$40.06
Engineer PM I	\$34.50	\$34.67
Planning PM	\$33.95	\$34.12
Architect PM	\$33.69	\$33.86
Assistant PM Engineer II	\$38.01	\$38.20
Assistant PM Engineer I	\$34.65	\$34.82
Assistant PM Scientist	\$27.10	\$27.24
Engineer I	\$30.44	\$30.59
Scientist EI	\$25.06	\$25.19
Administrative Managers	\$39.03	\$39.23
Senior Administrative Assistant	\$27.04	\$27.18
Intern	\$15.50	\$15.58
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00



# Cost Estimate of Consultant Services (CPFF)

Firm Huff & Huff, Inc.  
 Route Kenosha Road  
 Section 21st St to IL Rte 137  
 County Lake  
 Job No. \_\_\_\_\_  
 PTB & Item \_\_\_\_\_

Date 9/15/2017

Overhead Rate 186.64%

Complexity Factor 0

Item	Manhours	Payroll	Overhead & Fringe Benefits	In-House Direct Costs	Fixed Fee	Outside Direct Costs	Services By Others	Total	% of Grand Total
Due Diligence	6	208.94	389.96	78.25	98.19	250.00	0.00	1,025.34	21.05%
Soil / Sediment Sampling & Analysis	8.75	312.94	584.07	166.20	154.17	1,383.00	0.00	2,600.38	53.39%
LPC-Form Preparation	10.25	368.30	687.40	13.95	155.10	20.00	0.00	1,244.75	25.56%
<b>TOTALS</b>	25	890.18	1,661.44	258.40	407.45	1,653.00	0.00	4,870.48	100.00%

Method of Compensation:

- ☒ 14.5%[DL + R(DL) + OH(DL) + IHDC]  
☐ 14.5%[DL + R(DL) + 1.4(DL) + IHDC]  
☐ 14.5%[(2.3 + R)DL + IHDC]  
☐ Specific Rate  
☐ Lump Sum

## Average Hourly Project Rates

<b>Route</b>	Kenosha Road
<b>Section</b>	21st St to IL Rte 137
<b>County</b>	Lake
<b>Job No.</b>	
<b>PTB/Item</b>	

**Consultant**     Huff & Huff, Inc.

**Date**   9/15/2017

**Sheet**   1     **OF**   1

Payroll  Classification	Avg Hourly Rates	Total Project Rates			Due Diligence			Soil / Sediment Sampling & Analysis			LPC-Form Preparation								
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Senior Principal	70.00	0																	
Principal	70.00	0																	
Associate Principal II	70.00	0																	
Associate Principal I	53.81	1	4.00%	2.15				0.25	2.86%	1.54	0.75	7.32%	3.94						
Senior Consultant	67.27	0																	
Senior Geotechnical Consultant	62.22	0																	
Senior Project Manager III	57.98	0																	
Senior Project Manager II	41.13	0																	
Senior Landscape Architect	51.31	0																	
Senior Planning PM	46.12	0																	
Senior Geologist PM	41.81	1.5	6.00%	2.51				0.5	5.71%	2.39	1	9.76%	4.08						
Senior Technical Specialist	43.47	0																	
Senior Scientist PM II	44.97	0																	
Senior Scientist PM I	36.75	0																	
Senior Technical Scientist	35.20	0																	
Senior CADD Specialist	32.61	1	4.00%	1.30							1	9.76%	3.18						
Scientist PM	41.53	0																	
Geologist PM	34.82	0																	
Engineer PM II	40.06	0																	
Engineer PM I	34.67	0																	
Planning PM	34.12	0																	
Architect PM	33.86	0																	
Assistant PM Engineer II	38.20	0																	
Assistant PM Engineer I	34.82	20.5	82.00%	28.56	6	100.00%	34.82	8	91.43%	31.84	6.5	63.41%	22.08						
Assistant PM Scientist	27.24	0																	
Engineer I	30.59	0																	
Scientist EI	25.19	0																	
Administrative Managers	39.23	0																	
Senior Administrative Assistant	27.18	1	4.00%	1.09							1	9.76%	2.65						
Intern	15.58	0																	
<b>TOTALS</b>		25	100%	\$35.61	6	100%	\$34.82	8.75	100%	\$35.76	10.25	100%	\$35.93	0	0%	\$0.00	0	0%	\$0.00

**HUFF & HUFF, INC.**  
**SUMMARY OF INHOUSE DIRECT COSTS**  
Project: GHA Kenosha Rd Zion CCDD

										<u><b>DIRECT</b></u>
<b><i>Task 01 -Due Diligence</i></b>										
Trips - Company	120 miles	x	1	x	\$	0.535	=	\$	64.20	
Tolls			8	x	\$	1.50	=	\$	12.00	
Reproduction	1 sets	x	50	x	\$	0.03	=	\$	1.50	
Color copies	1 sets	x	5	x	\$	0.11	=	\$	0.55	
			0	x	\$	-	=	\$	-	
<b>Task Total</b>									<b>\$</b>	<b>78.25</b>
<b><i>Task 02 - Soil/Sediment Sampling &amp; Analysis</i></b>										
Trips - Company	120 miles	x	1	x	\$	0.535	=	\$	64.20	
Tolls			8	x	\$	1.50	=	\$	12.00	
Field Kit	1 day	x	1	x	\$	30.00	=	\$	30.00	
pH Meter	1 day	x	1	x	\$	10.00	=	\$	10.00	
PID Meter	1 day	x	1	x	\$	50.00	=	\$	50.00	
<b>Task Total</b>									<b>\$</b>	<b>166.20</b>
<b><i>Task 03 - LPC-Form Preparation</i></b>										
Reproduction	3 sets	x	100	x	\$	0.03	=	\$	9.00	
Color copies	3 sets	x	15	x	\$	0.11	=	\$	4.95	
			0	x	\$	-	=	\$	-	
<b>Task Total</b>									<b>\$</b>	<b>13.95</b>
<b>GRAND TOTAL</b>										<b>\$ 258.40</b>

\\Gzachicago\finance\Proposals\Proposal-FY2018\GHA\81.PB00042.18 GHA Kenosha CCDD Direct Cost CPFF.xls\Inhous

**HUFF & HUFF, INC.**  
**SUMMARY OF OUTSIDE DIRECT COSTS**  
 Project: GHA Kenosha Rd Zion CCDD

						<u>OUTSIDE</u>	
<b>Task 01 -Due Diligence</b>							
Records Search				1	x	\$ 250.00	= \$ 250.00
				0	x	\$ -	= \$ -
						<b>Task Total</b>	<b>\$ 250.00</b>
<b>Task 02 - Soil/Sediment Sampling &amp; Analysis</b>							
VOC	1 ea	x		1	x	\$ 138.00	= \$ 138.00
BTEX	1 ea	x		2	x	\$ 65.00	= \$ 130.00
SVOC	1 ea	x		3	x	\$ 205.00	= \$ 615.00
RCRA total	1 ea	x		3	x	\$ 85.00	= \$ 255.00
RCRA SPLP	1 ea	x		1	x	\$ 165.00	= \$ 165.00
pH	1 ea	x		4	x	\$ 20.00	= \$ 80.00
				0	x	\$ -	= \$ -
						<b>Task Total</b>	<b>\$ 1,383.00</b>
<b>Task 03 - LPC-Form Preparation</b>							
Federal Express				1	x	\$ 20.00	= \$ 20.00
				0	x	\$ -	= \$ -
						<b>Task Total</b>	<b>\$ 20.00</b>
<b>GRAND TOTAL</b>						<b>\$</b>	<b>1,653.00</b>

**HUFF & HUFF, INC.**  
**SUMMARY OF SERVICES BY OTHERS**  
Project: GHA Kenosha Rd Zion CCDD

**OUTSIDE**

***Task 01 -Due Diligence***

<hr/>	0 x	\$	-	=	\$	-
		<b>Task Total</b>			<b>\$</b>	<b>-</b>

***Task 02 - Soil/Sediment Sampling & Analysis***

<hr/>	0 x	\$	-	=	\$	-
		<b>Task Total</b>			<b>\$</b>	<b>-</b>

***Task 03 - LPC-Form Preparation***

<hr/>	0 x	\$	-	=	\$	-
		<b>Task Total</b>			<b>\$</b>	<b>-</b>

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<b>GRAND TOTAL</b>	<b>\$</b>	<b>-</b>
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Google Earth

feet  
meters





## Attachment 2

Soil and Materials  
Consultants, Inc.



Office: 847-870-0544  
Fax: 847-870-0661  
us@soilandmaterialconsultants.com  
www.soilandmaterialconsultants.com

September 19, 2017  
Proposal No. 16,188

Mr. Todd Gordon, P.E.  
Gewalt Hamilton Associates, Inc.  
625 Forest Edge Drive  
Vernon Hills, IL 60031

Re: Geotechnical Investigation  
Kenosha Road Culvert Replacement  
Lake County, Illinois

Dear Mr. Gordon:

Submitted for your consideration is our proposal to provide the requested subsurface soil investigation, engineering evaluation and geotechnical report on the above referenced site.

#### Field Investigation

We propose the layout of 2 borings at the requested locations and in areas accessible to our truck mounted drilling equipment. We will take reasonable precautions to minimize surface and subsurface damage due to our operations. We cannot be responsible for the cost of site restoration resulting from accessing and performing the investigation.

We will contact JULIE for location of public utilities. The location of private services or other below grade improvements is the responsibility of the property owner.

The borings will be power auger drilled and soils sampled using a split barrel sampler at intervals of 2.5 feet within 25.0 feet of the surface and at intervals of 5.0 feet below this depth. The proposed borings will extend to minimum depths of 25.0 feet. Additional boring depth and sampling may be provided if weak or unsuitable soil conditions are encountered.

#### Laboratory Testing

Soil samples will be returned to our laboratory for review and tested to determine moisture content. Competent samples of cohesive soils will be tested further to determine dry unit weight and unconfined compressive strength. Additional testing may be provided based on the results of the field investigation and laboratory testing.

#### Engineering Evaluation, Report

The field investigation and laboratory testing will be completed under the direction of a Registered Professional Engineer. Preliminary information will be available upon request. Upon completion of the investigation an engineering evaluation will be completed and a report prepared. The report will present our findings, evaluate the findings and present appropriate recommendations.

8 W. COLLEGE DR. • SUITE C • ARLINGTON HEIGHTS, IL 60004

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SOIL BORINGS • SITE INVESTIGATIONS • PAVEMENT INVESTIGATIONS • GEOTECHNICAL ENGINEERING  
TESTING OF • SOIL • ASPHALT • CONCRETE • MORTAR • STEEL

Charges

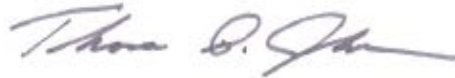
Our unit charges and the estimated total cost for the investigation are indicated on the attached Schedule of Fees. Final billing will be based on this schedule. If additional services are requested that are beyond the scope of the proposed investigation, they will be provided at our established unit prices.

Your consideration of this proposal is appreciated. The attached General Conditions are understood to be part of this proposal. If acceptable, please execute and return one copy to our office.

Should you have any questions concerning the scope of the investigation, please let us know.

Very truly yours,

SOIL AND MATERIAL CONSULTANTS, INC.



Thomas P. Johnson, P.E.  
President

TPJ:dd

Proposal Accepted By:

Client \_\_\_\_\_  
Street \_\_\_\_\_  
Town \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Phone (     ) \_\_\_\_\_ E-Mail Address \_\_\_\_\_  
Signature \_\_\_\_\_ Position \_\_\_\_\_  
Printed Name \_\_\_\_\_ Date \_\_\_\_\_

**SCHEDULE OF FEES -- SUBSURFACE SOIL INVESTIGATION**

**Field**

Boring Layout	2	hr.	\$	85.00	/hr.	\$	170.00
Utility Location	1	hr.	\$	85.00	/hr.	\$	85.00
Attenuator Truck	7	hr.	\$	200.00	/hr.	\$	1,400.00
Mobilization	1		\$	Lump	Sum	\$	300.00
Drilling (2 @ 25')	50	ft.	\$	14.00	/ft.	\$	700.00
Split Barrel Sampling	20	ea.	\$	10.00	ea.	\$	200.00

**Laboratory**

Moisture Content	21	ea.	\$	4.00	ea.	\$	84.00
Unit Weight	18	ea.	\$	4.00	ea.	\$	72.00
Unconfined Compressive Strength	18	ea.	\$	7.00	ea.	\$	126.00

**Report**

Senior Engineer (P.E.)	5	hr.	\$	130.00	/hr.	\$	650.00
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Estimated Total Cost: \$ 3,787.00

## TERMS AND CONDITIONS

Soil and Material Consultants, Inc. (SMC) scope of work defined in the proposal was based on information provided by the client. If incomplete, inaccurate or if unexpected site conditions are discovered, the scope of work may change.

### GEOTECHNICAL INVESTIGATIONS

Client will furnish SMC with right-of-access to the site. SMC will take reasonable precautions to minimize site damage due to its operations, but has not included in the fee the cost of restoration of any resulting damage. SMC shall not be liable for damage or injury due to encountering subsurface structures (pipes, tanks, utilities or others) not called to SMC's attention in writing or are not correctly shown on the drawings furnished by client or client's representative. If the client desires, SMC will restore any damage to the site and add the cost of restoration to the fee.

Field work, laboratory testing and engineering analysis will be performed in accordance with generally accepted soil and foundation engineering practices. Samples are retained in our laboratory for 30 days from date of report and then destroyed unless other disposition is requested. The data reported applies only to the soils sampled and the conditions encountered at each boring location. This does not imply or guarantee that soils between borings will be identical in character. Isolated inclusions of better or poorer soils can be found on any site. SMC will not be liable for extra work or other consequences due to changed conditions encountered between borings.

Any exploration, testing and analysis associated with the investigation will be performed by SMC for the client's sole use to fulfill the purpose of this Agreement. SMC is not responsible for use or interpretation of the information by others. The client recognizes that subsurface conditions may vary from those encountered in borings or explorations. Information and recommendations developed by SMC are based solely on available information and for the currently proposed improvement.

Documents including but not limited to technical reports, original boring logs, field data, field notes, laboratory test data, calculations, reports of inspection and testing, geotechnical reports, technical reports, submittals and estimates furnished to the client or its agents pursuant to this agreement are not intended or represented to be suitable for reuse by the client or others on extensions of this project or on any other project. Any reuse without SMC's written consent will be at user's sole risk and without liability or legal exposure to SMC. User shall indemnify and hold harmless SMC from all claims, damages, losses and expenses including attorney's fees arising out of or resulting therefrom. To the maximum extent permitted by law, the Client agrees to limit SMC liability for clients' damages to \$100,000 or the fee, whichever is lesser. This limitation shall apply regardless of the cause of action or legal theory pled or asserted.

Soil and Material Consultants, Inc. is a Professional Engineering Corporation. Engineering services are often completed by extension through technical staff. The unit rates presented in this proposal do not reflect charges associated with organized labor. Future agreements, if any, with organized labor will invalidate some of the unit rates presented. Required rate adjustments will be presented to the client for acceptance prior to providing services at the adjusted rates.

Services are invoiced monthly for the preceding period. Client agrees to pay each invoice within thirty (30) days of receipt and further agrees to pay interest on all amounts not paid at the rate of 2.0% per month, an annual rate of 24%, from the due date. Client agrees to pay all reasonable costs of collection including staff time, court costs, Attorneys' fees and related expenses, if this account becomes delinquent. Client agrees that reports furnished to the client but not paid for in full remain the sole property of SMC and will not be used for design, construction, permits, licensing, sales or other gain.

### TESTING SERVICES

Client shall furnish SMC with at least one working day's notice on any part-time (less than 8 hours/day) job when field personnel are requested. SMC shall make reasonable effort to provide field personnel in a timely manner but reserves the right to schedule field personnel as deemed appropriate. Minimum charges will be billed when work cancellations are received after field personnel have left for the project site.

SMC personnel will provide a professional service based on observations and testing of the work of a contractor, subcontractor, or other service/material provider, as specifically requested. SMC field personnel will look for general conformance with project specifications, plans and/or soil report but does not accept the responsibility to control or direct the work of others. Discrepancies noted by SMC office or field personnel will be referred to client or client's representative.

Testing Services furnished by SMC are defined as the taking of soil and/or material tests at various locations and the making of visual observations relating to earthwork, foundations, and/or materials as specifically requested by the client and agreed to by SMC, and will be limited to those specifically agreed services. Such services will be performed by SMC using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable members of the profession practicing in this or similar localities.

Observations and testing of soils and/or materials by SMC in no way implies a guarantee or warranty of the work of the contractor, subcontractor, or other service/material provider. SMC's work or failure to perform same shall in no way excuse such contractor, subcontractor or other service/material provider from liability in the event of subsequently discovered defects, omissions, errors, deficiencies or failure to perform in accordance with the project plans and specifications. SMC field personnel shall not be responsible for superintendence of the construction process nor direction of the work of the contractor, subcontractor, or other service/material provider. SMC's work shall not include determining or implementing the means, methods, techniques, sequences or procedures of construction. SMC shall not be responsible for evaluating, reporting or affecting job conditions concerning health, safety or welfare.

## Attachment 3

### Badger Daylighting

September 19, 2017



Gewalt Hamilton Associates

September 19, 2017

Dear Mr. Todd Hamilton

Badger Daylighting is a *national service provider* with field offices throughout the United States and Canada. Badger is the leading provider of non-destructive hydro excavation services. Badger works with facility owners and as a *subcontractor* for companies like yours. It is our *goal* to safely excavate around buried utilities and obstructions, allowing your crews to be more productive. We can help you protect your work force, the clients' infrastructure and the environment.

The **Badger Daylighting Hydrovac** process employs pressurized water and a powerful positive displacement vacuum system to excavate, *even through frost*. The water is delivered through a handheld wand to cut through the soil, which is simultaneously removed by the vacuum to our on board debris tank, providing you with a safe, clean excavation.

**Benefits of using Badger Daylighting:**

- No damage to buried utilities or your infrastructure.
- Safety of personnel
- Reduced downtime and increased productivity.
- National company, able to dispatch units wherever your project is.
- Availability of multiple units to any jobsite.
- Experience and Safety of the leader in hydro-excavation.

**Applications for the Badger system:**

- Visual confirmation of buried utilities and obstructions prior to starting.
- Able to work in congested and remote areas.
- Slot trenching to investigate and for installation.
- Pilot holes for footings, piles, shoring, posts, poles, and caissons.
- Material removal from interior structures, culverts, and buildings.

**Estimate of work to be performed:**

- Assist the Client/Contractor as needed, including but not limited to, removing existing soils by the hydro-vac method of excavation to protect the existing infrastructure.
- Locate existing utilities, structures and obstructions, as per direction of the client/contractor.
- Potholing and slot trenching and excavating as needed.

September 19, 2017

**The Contractor is responsible for the following:**

- Permits and permission from property owners, utilities, and government agents
- Surface locates and traffic control, if needed
- Breaking, removal, and restoration of asphalt and or concrete, if needed.
- Adequate water source and dump site.
- Specific direction and locations for hydro-vac excavation
- Backfill and site restoration, if necessary.
- Shoring, dewatering, maintenance and barricading of the excavation.

**Additional:**

1. Badger is not responsible for suspect soil or materials.
2. The Badger crew will be able to work continuously, without undue disruption of service, or schedule.
3. If remote work is needed (more than 20 feet from the unit) additional operator and or equipment may be necessary.
4. Large rock, wood, debris, and or existing obstructions, may alter this proposal.
5. Unstable ground conditions, wet and running sand and or cave-ins, that requires the contractor to provide and install additional equipment and materials may alter this proposal.
6. Should frost still exist in ground there is a possibility for additional cost for digging.

**Scope of Work**

***Hydro Vac Excavate:***

Cost Estimate	Unit	No. Unit	Unit Cost	Total
Badger Unit w/Operator	Hr.	10	\$245.00	\$2,450.00
Badger Unit w/Operator Overtime	Hr.			
Portal to Portal	Hr.			
Extra Man	Hr.			
Extra Man Overtime	Hr.			
Water	Per	1	\$30.00	\$30.00
Fuel Recovery Surcharge 4.5%				
			<b>Est. Daily Total</b>	<b>\$2,480.00</b>

Additional Charges:

- Dumping of Spoils \$60.00 per ton

*Note: If for any reason the scope of work changes or there are any unforeseen issues beyond Badger Daylighting's control or there is any Standby/Wait time there will be additional charges incurred at rates listed below.*



September 19, 2017

### **Badger Daylighting Service Rates (Non-Remote)**

Standard Rate: \$245.00 per hour

- ✚ One (1) operator and one (1) Badger Hydrovac unit
- ✚ Portal to Portal
- ✚ 8 hrs. Straight time per day
- ✚ Four (4) hour minimum

Overtime Rates: \$290.00 per hour

- ✚ One (1) operator and one (1) Badger Hydrovac unit
- ✚ Portal to Portal
- ✚ Over 8 hours per day or Saturdays
- ✚ Eight (8) hour minimum

Sunday's and Holiday Rates \$355.00 per hour

- ✚ One (1) operator and one (1) Badger Hydrovac unit
- ✚ Portal to Portal
- ✚ Eight(8) hour minimum

#### **❖ Accessorial Charges:**

Second Man: Standard (8 hrs.)	\$100.00 per hour additional
Second Man: Overtime (over 8 hrs. or Saturday)	\$130.00 per hour additional
Second Man: Double Time	\$170.00 per hour additional
Burner Usage:	\$ 25.00 per hour additional
Support Truck w/Trailer	\$130.00 per day
Air Compressor 185 w/Hose	\$525.00 per week
Air Knife	\$ 25.00 per day
De Con Truck	\$300.00 per truck
Asphalt/Concrete Coring: 16"-18" Holes	\$450.00 ea.
Set Core-Epoxy	\$ 80.00 ea.
Ty-vex Suits	\$ 15.00 ea.
Respirators	\$ 10.00 per day
Die Electric Gloves/Boots	\$ 10.00 per day ea.
50' Grounding Cable	\$ 25.00 per day
Gas Monitor	\$ 10.00 per day
Fencing, Stakes & Plywood	\$ 25.00
6" Remote Hose:	\$ 2.25 per foot
Water:	\$ 30.00 per load
Water: Morris, Heartland, LRS	\$ 80.00 per load
Slurry Sand (backfill)	\$150.00 per cu. Yd.
Slurry Sand (backfill) winter rates	\$190.00 per cu. Yd.
4" PVC Pipe	\$ 20.50 per 10' length
4" PVC Couplers	\$ 5.00 ea.
Subsistence: Per Operator	\$130.00 per day

❖ If overnight stay is required

#### **General Conditions**

1. Except where superseded by an existing services agreement the following terms and conditions apply to this quoted business.
2. Payment terms: Net 30 Days
3. Customer responsible for providing water source. If Badger is required to supply water source additional charges may apply.
4. Disposal of spoils not included in above quoted rates.
5. A cancellation fee of \$1000 plus drive time will be assessed in the event work is cancelled after Operator is onsite.

September 19, 2017

**The Badger Advantage:**

- ❖ Remote excavation: Because of the powerful vacuum system the Badger can easily excavate 200 feet from the truck.
- ❖ 8 inch Dig tube: This allows for maximum debris and stone removal, even to depths past 40 feet.
- ❖ Telescoping Boom: Our remote controlled, 6-way, telescoping boom allows for quick positioning of the dig tube no matter how congested the area.
- ❖ Water Tank: Each self-contained unit has a 1200-gallon water tank with multiple filling options, so that less time is spent filling with water.
- ❖ Debris Tank: The 2400-gallon debris tank allows us to excavate longer before needing to off load, thus increasing productivity.
- ❖ Heater: Each Badger unit is equipped with a 1.2 million BTU heater, which can continuously provide water heated to 150 F, making it possible to cut through frost and hard clay.
- ❖ Positive displacement blower: Please do not confuse the Badger unit with a sewer sucker. Our vacuum is not fan driven. The Badger system makes a substantial difference in excavation ability, and productivity.

**Safety**

In addition to Badger Hydrovac's providing the safest excavating method where existing underground utilities are found, all Badger agents are highly trained to meet our stringent standards for safe work and Best Practices procedures. Badger employs a full time National Safety Coordinator and has developed industry leading safety policy & procedures.

Company: Badger Daylighting Corp. \_\_\_\_\_

Company: \_\_\_\_\_

Authorized Personnel

Authorized Personnel

By: \_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Printed Name

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Sincerely,

**Scott Schulz**

Badger Daylighting Corp.

Joliet Area Manager

24240 N. Illinois Drive

Channahon, IL 60410

Phone: 815-200-2064

Fax: 815-467-8494

E-mail: [sschulz@badger-corp.com](mailto:sschulz@badger-corp.com)

## Attachment 4

# LCDOT - Design Survey Procedures

# DESIGN SURVEY PROCEDURES



## **DESIGN SURVEY PROCEDURES** (Revised 3/10/17)

### **HORIZONTAL ALIGNMENT**

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

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

The CONSULTANT will mark the baseline for relocated alignments when off pavement at the PCs, PTs, and POTs with iron rods. The rods shall be set one foot below the surface in farmed land. The CONSULTANT will advise the County of any pavement alignment variations. In cases where the proposed centerline of construction or survey baseline is different from the existing centerline of R.O.W., both shall be shown and the relationship between them shall be indicated on an Alignment & Tie sheet.

### **ALIGNMENT & TIE SHEET**

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

## **VERTICAL ALIGNMENT**

The North American Vertical Datum of 1988 (NAVD 88) shall be used for vertical control. Lake County Mapping Benchmarks are available on-line (<http://gis.lakeco.org/maps/>). NAVD88 benchmarks are available on-line from the National Geodetic Survey. LCDOT's Land Surveyor may also be contacted for benchmarks that may be in the area. The primary benchmarks and site benchmarks shall be listed and described on the Alignment & Tie Sheet. The location of the site benchmarks shall also be shown on the plan sheets with a symbol. Site benchmarks are to be located at less than 1000-foot intervals with a minimum of two (2) on each project.

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

## **TOPOGRAPHY**

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

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

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

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

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

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

## **RAILROAD INSURANCE**

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

### **DELIVERABLES**

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