


Municipality	LOCAL AGENCY	 Illinois Department of Transportation	CONSULTANT	Name Gewalt Hamilton Associates, Inc
Township				Address 625 Forest Edge Drive
County Lake County – Division of Transportation		Preliminary Engineering Services Agreement For Non-Motor Fuel Tax Funds		City Vernon Hills
Section 18-00094-03-BR				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 - Culvert Repair Project – SN:049-5005

Route CH 37 Length N/A Mi. N/A FT (Structure No. 049-5005)

Termini Kilbourne Road – Culvert Repairs at SN:049-5005 - Approximately 0.7 miles south of state line

Description: Phase II Engineering Services for the remediation of scour at the culvert location and repair of culvert spalling.

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 \$ 58,390.86

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:

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

Art J. Penn, Treasurer

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

Design Culvert Repairs
Structure Number (SN): 049-5005
Kilbourne Road – Over the Des Plaines River Tributary
(Approx. 0.7 mi. South of State Line)

April 10, 2018

Gewalt Hamilton Associates, Inc. (GHA) will provide Phase II Design Engineering Services to the Lake County Division of Transportation (LCDOT) for the design culvert repairs to LCDOT SN: 49-5005. The culverts are located approximately 0.7 miles south of the Illinois-Wisconsin state line within Newport Township, Lake County, Illinois. LCDOT bridge inspector Hampton Lenzini & Renwick Inc. (HLR) performed a bridge inspection of the noted structure on January 24, 2018. LCDOT has requested GHA perform the design culvert repairs in accordance with HLR's maintenance recommendations from the bridge inspection summary (BIS). LCDOT has provided original design plans (Section# 89-00094-02-FP) of the triple culvert, dated November 30, 1989, for reference.

The structure consists of three (3) adjacent precast concrete pipe culverts and end sections. Based on HLR's report, the culvert(s) received a condition rating of a 4, poor. HLR recommends that the observed scouring and washout issues be remediated to help prevent further scour. The report recommends that rip-rap be placed in the scour holes within the channel, along the roadway side slopes, and around the culvert end sections. Addressing the scour should bring the culvert condition rating from a 4 to a 6, satisfactory condition.

HLR also recommends that the noted spalling be cleaned and patched to prevent further deterioration. In addition, the culvert end sections shall be tied to the adjacent pipe segment in accordance with Lake County Standard LC5402 "Joint Ties For Concrete Pipe", as provided by LCDOT. It is suggested that repairing the spalling along with the remediation of the scour will further improve the condition rating to a 7, good condition.

GHA will also review the comments from the BIS stating that the backfill material is washed out at all the end sections. Considerations will be reviewed to address this condition. As GHA proceeds with the design, it is anticipated that there may be encroachments for the placement of embankment and rip-rap materials beyond the right-of-way and the existing 10-foot drainage easement. We have included an allowance for preparation of temporary easement documents.

GHA understands that the permitting through the US Army Corps of Engineers (USACE) and Lake County Stormwater Management Commission (LCSMC) will be needed. The existing culverts under Kilbourne Road fall in mapped floodplain and floodway. LCDOT would like to let this project in the spring of 2019.

Task 1 – Project Administration and Management

1. LCDOT Kick-off Meeting: GHA will attend a kick-off meeting with LCDOT staff to discuss the Phase II design for the Design Culvert Repairs of Structure Number (SN): 049-5005 to determine milestone schedule, including project specific requirements, and overall project scope. It is understood that LCDOT will require one (1) review.
2. Project Coordination: GHA will coordinate the improvements for the Culvert Repairs of Structure Number (SN): 049-5005 with various agencies including USACE, LCSMC, and utility companies as necessary.

Task 2 – Data Collection and Topographic Survey

1. Data Collection: GHA will conduct a field review with LCDOT staff to determine the overall scope of the project as well as identify the limits of improvements.
2. Topographic Survey: GHA will conduct the necessary topographic survey and identify the ROW boundary of the project limits. GHA will establish the alignment and ties.
3. All required survey will follow LCDOT design survey procedures (Exhibit G). The alignment and survey will be established using state plane coordinates and NAVD88 datum.

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

1. Pre-Final Plans: GHA will develop pre-final plans for the Design Culvert Repairs of Structure Number (SN): 049-5005 based on field survey, field inspections, and the LCDOT bridge inspection summary for SN: 049-5005.
2. 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.
3. 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.
4. Pre-Final Review: GHA will submit pre-final plans to 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%)

1. Final Plans: All comments received pertaining to the pre-final plans will be addressed and a disposition to comments will be provided. Changes will be incorporated into the final engineering plans.
2. Final Special Provisions: All comments received pertaining to the pre-final special provisions will be addressed and a disposition to comments will be provided.
3. Final Quantity Calculations: The quantities will be updated based on changes made to the plans after the pre-final plan review.
4. Final Estimates: The final estimates of cost and time will be updated based on the revised quantities.

Task 5 – Wetland Delineation/Jurisdictional Determination

1. GHA will complete wetland delineation and request jurisdictional determination on the wetlands adjoining the culvert repair project. Depending on the jurisdiction, wetland permits will be needed from the USACE and/or LCSMC.
2. Wetland Delineation: GHA will delineate Waters of the U.S. (WOUS), including wetlands, in conformance with Local and County ordinances and the USACE. We will prepare a 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.
3. 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 6 – Permitting

1. Lake County Stormwater Management Commission (LCSMC) Permitting: A watershed development permit application will be submitted for the design of the culvert repairs. Prior to applying for the permit, GHA will schedule a pre-application meeting with LCSMC staff and the USACE (if possible) to review the permit requirements.
2. Wetland Permitting: It is anticipated that this project 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, 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 7 – CCDD Spoil Management

As any potential removal and reinstallation of the triple RCP culvert end sections will require earth excavation and disposal, GHA will utilize the services of Huff & Huff, Inc. (H&H) to perform soil management services for documentation of final disposition at clean Construction and Demolition Debris (CCDD) facilities. H&H's proposal, dated March 15, 2018, is included as Exhibit F.

Task 8 – Plat of Highway, Legal Descriptions, Title Commitments

GHA will prepare the Plat of Highways, Legal Descriptions and obtain the title commitments for the parcels proposed for acquisition in accordance with the current LCDOT Plats Guidelines. There are two (2) parcels adjoining the existing culvert repair project limits with potential temporary easement acquisitions. We anticipate utilizing the services of Wheatland Title Company for the title commitments, and have budgeted \$600.00 per title commitment.

Task 9 – Quality Assurance / Quality Control

1. Pre-Final QA/QC Review: Prior to submission of pre-final plans to 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 identify required pay items, quantities of work, and special provisions required.

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

Exhibit B

Anticipated Plan Sheets

EXHIBIT B – ANTICIPATED PLAN SHEETS

Phase II Design Engineering Services
Lake County Division of Transportation

Design Culvert Repairs
Structure Number (SN): 049-5005
Kilbourne Road – Over the Des Plaines River Tributary
(Approx. 0.7 mi. South of State Line)

April 10, 2018

<u>Anticipated Plan Sheets</u>	<u>No. of Sheets</u>
1. Cover Sheet	1
2. LCDOT General Notes	3
3. Summary of Quantities	1
4. Schedule of Quantities	2
5. Alignment, Ties and Benchmarks	1
6. Typical Sections	1
7. Traffic Control Plan	2
8. Existing Conditions / Removal	1
9. Plan Sheets	2
10. Sediment and Erosion Control Plan	2
11. Project Details / Standards	<u>10</u>
Anticipated Total Sheets:	26

Exhibit C

Estimate of Direct Costs

BDE 436 (Rev. 09/30/13)

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 II	ET V	ET IV	ET III	ET II	ET I	AD I	Total Hours
1. Project Administration and Management																			
Meetings		4		8			4											2	18
Project Management		4		12															16
Utility Coordination as Necessary							8											8	16
1. Category Subtotal	0	8	0	20	0	0	12	0	0	0	0	0	0	0	0	0	0	10	50
2. Data Collection and Topographic Survey																			
Confirm Field Control								4											4
Topo Survey Existing Conditions									16										16
Reduction of Field Survey (Office)																20			20
Field Investigation of Drainage Culverts				4			4												8
Site Visit with LCDOT Staff		4		4															8
Obtain and review existing plans				4															4
2. Category Subtotal	0	4	0	12	0	0	4	4	16	0	0	0	0	0	0	20	0	0	60
3. Pre-Final Plans, Special Provisions, and Estimates																			
A. Pre-Final Plans																			
Cover Sheet							2												2
LCDOT General Notes							2												2
Summary of Quantities					2		2												4
Schedule of Quantities					2		2												4
Alignment, Ties and Benchmarks					2			4											6
Typical Sections							4												4
Traffic Control Plan				4	8		12												24
Existing Conditions / Removal Plans					2		8												10
Plan Sheets				4	4		28												36
Sediment and Erosion Control Plan							8												8
Project Details and Standards							8												8
Roadside Safety Guardrail Design				12			12												24
B. Pre-Final Special Provisions																			
Recurring and Supplemental Special Provisions							2												2
BDE Special Provisions							2												2
Project Specific Special Provisions				4			8											8	20
C. Pre-Final Schedule of Quantities																			
				2	8		8												18
D. Pre-Final Estimate of Cost and Time																			
					2		2												4
E. Pre-Final Meeting with LCDOT																			
		4		4															8
3. Category Subtotal	0	4	0	30	30	0	110	4	0	0	0	0	0	0	0	0	0	8	186

	Principal	CE VI	CE V	CE IV	CE III	CE II	CE I	LS IV	LS II	LS I	GISP I	EC II	ET V	ET IV	ET III	ET II	ET I	AD I	Total Hours
4. Final Plans, Special Provisions, and Estimates																			
A. Final Plans																			
Cover Sheet																			0
LCDOT General Notes																			0
Summary of Quantities							2												2
Schedule of Quantities							2												2
Alignment, Ties and Benchmarks																			0
Typical Sections							2												2
Traffic Control Plan							2												2
Existing Conditions / Removal Plans																			0
Plan Sheets				2			8												10
Sediment and Erosion Control Plan							2												2
Project Details and Standards							2												2
B. Final Special Provisions																			
Recurring and Supplemental Special Provisions																			0
BDE Special Provisions																			0
Project Specific Special Provisions				2			2											4	8
C. Final Schedule of Quantities							4												4
D. Final Estimate of Cost and Time				2			2												4
E. Final Meeting with LCDOT		4																	4
4. Category Subtotal	0	4	0	6	0	0	28	0	0	0	0	0	0	0	0	0	0	4	42
5. Wetland Delineation / Jurisdictional Determination																			
Delineation & Report			4									16							20
5. Category Subtotal	0	0	4	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	20
6. Permitting																			
SMC Permitting			2				4					12							18
ACOE Permitting			2				4					12							18
6. Category Subtotal	0	0	4	0	0	0	8	0	0	0	0	24	0	0	0	0	0	0	36
7. CCDD Soil Mangement																			
Coordination with Huff & Huff					4														4
7. Category Subtotal	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4

	Principal	CE VI	CE V	CE IV	CE III	CE II	CE I	LS IV	LS II	LS I	GISP I	EC II	ET V	ET IV	ET III	ET II	ET I	AD I	Total Hours
8. Plat of Highway, Legal Description, Title Commitments																			
Field Work - Recon/Control/Boundary Survey		2						12											14
Office Work-Prep POH & Legal Des/Review Title								24										4	28
Pre-Final POH/Legals/Titles		2						8											10
Final POH/Legals/Titles								4											4
Coordination with Title Co.								2											2
8. Category Subtotal	0	4	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	4	58
9. Quality Assurance / Quality Control																			
Pre-Final QA/QC Review		12																	12
Final QA/QC Review		4																	4
9. Category Subtotal	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Total Man-Hours																			472

PAYROLL ESCALATION TABLE
FIXED RAISES
COST PLUS FIXED FEE

FIRM NAME
 PRIME/SUPPLEMENT

Gewalt Hamilton Associates, Inc
Prime

DATE 04/10/18
 PTB NO. _____

CONTRACT TERM 12 MONTHS
 START DATE 4/20/2018
 RAISE DATE 5/1/2018

OVERHEAD RATE 160.00%
 COMPLEXITY FACTOR 0
 % OF RAISE 3.00%

ESCALATION PER YEAR

4/20/2018 - 5/1/2018

5/2/2018 - 5/1/2019

0
12

12
12

= 0.00%
 = 1.0300

103.00%

The total escalation for this project would be:

3.00%

PAYROLL RATES

FIRM NAME Gewalt Hamilton Associ DATE 04/10/18
 PRIME/SUPPLEMENT Prime
 PSB NO. _____

ESCALATION FACTOR 3.00%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
Principal	\$70.50	\$72.62
Civil Engineer VI	\$62.21	\$64.08
Civil Engineer V	\$57.06	\$58.77
Civil Engineer IV	\$49.55	\$51.04
Civil Engineer III	\$39.25	\$40.43
Civil Engineer II	\$29.00	\$29.87
Civil Engineer I	\$26.15	\$26.93
Land Surveyor IV	\$44.88	\$46.23
Land Surveyor II	\$33.06	\$34.05
Land Surveyor I	\$0.00	\$0.00
GIS Professional I	\$29.00	\$29.87
Environmental Consultant II	\$29.50	\$30.39
Engineer Tech V	\$56.75	\$58.45
Engineer Tech IV	\$37.21	\$38.33
Engineer Tech III	\$30.55	\$31.47
Engineer Tech II	\$25.43	\$26.19
Engineer Tech I	\$17.22	\$17.74
Administration	\$22.21	\$22.88
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00

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

PSB

04/10/18

Prime

1.6

0

[illegible]

DBE 0.00%

AVERAGE HOURLY PROJECT RATES

FIRM Gewalt Hamilton Associates, Inc
PSB _____
PRIME/SUPPLEMENT Prime

DATE 04/10/18

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			Wetland Delineation		
		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	72.62	0																	
Civil Engineer VI	64.08	40	8.47%	5.43	8	16.00%	10.25	4	6.67%	4.27	4	2.15%	1.38	4	9.52%	6.10			
Civil Engineer V	58.77	8	1.69%	1.00													4	20.00%	11.75
Civil Engineer IV	51.04	68	14.41%	7.35	20	40.00%	20.41	12	20.00%	10.21	30	16.13%	8.23	6	14.29%	7.29			
Civil Engineer III	40.43	34	7.20%	2.91							30	16.13%	6.52						
Civil Engineer II	29.87	0																	
Civil Engineer I	26.93	162	34.32%	9.24	12	24.00%	6.46	4	6.67%	1.80	110	59.14%	15.93	28	66.67%	17.96			
Land Surveyor IV	46.23	58	12.29%	5.68				4	6.67%	3.08	4	2.15%	0.99						
Land Surveyor II	34.05	16	3.39%	1.15				16	26.67%	9.08									
Land Surveyor I		0																	
GIS Professional I	29.87	0																	
Environmental Consul	30.39	40	8.47%	2.58													16	80.00%	24.31
Engineer Tech V	58.45	0																	
Engineer Tech IV	38.33	0																	
Engineer Tech III	31.47	0																	
Engineer Tech II	26.19	20	4.24%	1.11				20	33.33%	8.73									
Engineer Tech I	17.74	0																	
Administration	22.88	26	5.51%	1.26	10	20.00%	4.58				8	4.30%	0.98	4	9.52%	2.18			
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
TOTALS		472	100%	\$37.72	50	100.00%	\$41.71	60	100%	\$37.17	186	100%	\$34.04	42	100%	\$33.53	20	100%	\$36.06

AVERAGE HOURLY PROJECT RATES

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

DATE 04/10/18

SHEET 2 OF 5

PAYROLL	AVG	Permitting			CCDD Spoil Management			POH, Legal Dscrpt, Titles			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	72.62																		
Civil Engineer VI	64.08							4	6.90%	4.42	16	100.00%	64.08						
Civil Engineer V	58.77	4	11.11%	6.53															
Civil Engineer IV	51.04																		
Civil Engineer III	40.43				4	100.00%	40.43												
Civil Engineer II	29.87																		
Civil Engineer I	26.93	8	22.22%	5.99															
Land Surveyor IV	46.23							50	86.21%	39.85									
Land Surveyor II	34.05																		
Land Surveyor I																			
GIS Professional I	29.87																		
Environmental Cons	30.39	24	66.67%	20.26															
Engineer Tech V	58.45																		
Engineer Tech IV	38.33																		
Engineer Tech III	31.47																		
Engineer Tech II	26.19																		
Engineer Tech I	17.74																		
Administration	22.88							4	6.90%	1.58									
TOTALS		36	100%	\$32.77	4	100%	\$40.43	58	100%	\$45.85	16	100%	\$64.08	0	0%	\$0.00	0	0%	\$0.00

Exhibit E

Sub-Consultant Proposal Huff & Huff



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



March 15, 2018

via email: kbelgrave@gha-engineers.com

Mr. Levin L. Belgrave, P.E., PTOE
Director of Transportation Services
Gewalt Hamilton Associates, Inc.
625 Forest Edge Drive
Vernon Hills, Illinois 60061

**Re: CCDD Spoils Management Assistance – Kilbourne Road, Zion, Lake County, Illinois
Proposal No.: 81.PB00005.19**

Dear Mr. Belgrave:

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 culvert replacement project along Kilbourne Road between 9th Street and Highway 19/Russell Road in Zion, Illinois. 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. Based on the assumed limited construction necessary for culvert replacement, H&H anticipates collection of samples with a hand auger to control costs with culvert samples being collected from areas near the culvert to enable us to collect samples at appropriate depths via hand auger.



Although it is likely that potentially impacted properties will not be identified in close proximity to the project area, it has been our experience that CCDD facilities are concerned with sediments originating from similar drainage ways. Therefore, for budgetary purposes, H&H has developed a preliminary sampling protocol based on a preliminary review of the project area, including:

- Volatile organic compounds (VOCs, up to 1 sample);
- Benzene, toluene, ethylbenzene, and xylenes (BTEX, up to 1 sample);
- Semi-volatile organic compounds (SVOCs, up to 2 samples);
- RCRA metals via total method (up to 2 samples);
- RCRA metals via synthetic precipitation leaching or toxicity characteristic leaching procedure (SPLP or TCLP, up to 1 sample)
- Soil pH (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 3/15/2018
PTB NO. _____

CONTRACT TERM 12 MONTHS
START DATE 3/20/2018
RAISE DATE 3/1/2019

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

ESCALATION PER YEAR

3/20/2018 - 3/1/2019

12
12

= 100.00%
= 1.0000

The total escalation for this project would be:

0.00%



Payroll Rates

FIRM NAME Huff & Huff, Inc. DATE 3/15/2018
 PRIME/SUPPLEMENT Gewalt Hamilton Associates
 PTB NO. _____

ESCALATION FACTOR 0.00%

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	\$59.19	\$59.19
Senior Consultant	\$67.18	\$67.18
Senior Geotechnical Consultant	\$62.87	\$62.87
Senior Project Manager III	\$60.00	\$60.00
Senior Project Manager II	\$45.72	\$45.72
Senior Landscape Architect	\$52.11	\$52.11
Senior Planning PM	\$49.90	\$49.90
Senior Geologist PM	\$43.33	\$43.33
Senior Technical Specialist	\$44.64	\$44.64
Senior Scientist PM II	\$46.14	\$46.14
Senior Scientist PM I	\$39.45	\$39.45
Senior Technical Scientist	\$36.94	\$36.94
Senior CADD Specialist	\$33.75	\$33.75
Scientist PM	\$42.25	\$42.25
Engineer PM II	\$42.24	\$42.24
Engineer PM I	\$36.18	\$36.18
Planning PM	\$35.15	\$35.15
Architect PM	\$37.54	\$37.54
Assistant PM Engineer II	\$39.02	\$39.02
Assistant PM Engineer I	\$34.74	\$34.74
Assistant PM Scientist	\$28.02	\$28.02
Engineer I	\$34.13	\$34.13
Scientist E1	\$26.98	\$26.98
Scientist E2	\$22.00	\$22.00
Administrative Managers	\$40.57	\$40.57
Senior Administrative Assistant	\$27.89	\$27.89
Intern	\$15.00	\$15.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00



**Illinois Department
of Transportation**

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

Firm Huff & Huff, Inc.
Route Kilbourne Road
Section 9th to Russell
County Lake
Job No. _____
PTB & Item _____

Date 3/15/2018

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	5	173.70	324.19	79.90	83.78	250.00	0.00	911.57	22.79%
Soil/Sediment Sampling & Analysis	7.75	279.64	521.92	167.40	140.50	1,013.00	0.00	2,122.47	53.06%
Prepare LPC Document	8	294.32	549.32	0.00	122.33	0.00	0.00	965.97	24.15%
TOTALS	20.75	747.66	1,395.44	247.30	346.61	1,263.00	0.00	4,000.01	100.00%

Method of Compensation:

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

Average Hourly Project Rates

Route Kilbourne Road
Section 9th to Russell
County Lake
Job No.
PTB/Item

Consultant Huff & Huff, Inc.

Date 3/15/2018

Sheet 1 **OF** 1

Payroll Classification	Avg Hourly Rates	Total Project Rates			Due Diligence			Soil/Sediment Sampling & Ana			Prepare LPC Document								
		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	59.19	0.75	3.61%	2.14				0.25	3.23%	1.91	0.5	6.25%	3.70						
Senior Consultant	67.18	0																	
Senior Geotechnical Consultant	62.87	0																	
Senior Project Manager III	60.00	0																	
Senior Project Manager II	45.72	0																	
Senior Landscape Architect	52.11	0																	
Senior Planning PM	49.90	0																	
Senior Geologist PM	43.33	1.5	7.23%	3.13				0.5	6.45%	2.80	1	12.50%	5.42						
Senior Technical Specialist	44.64	0																	
Senior Scientist PM II	46.14	0																	
Senior Scientist PM I	39.45	0																	
Senior Technical Scientist	36.94	0																	
Senior CADD Specialist	33.75	1	4.82%	1.63							1	12.50%	4.22						
Scientist PM	42.25	0																	
Engineer PM II	42.24	0																	
Engineer PM I	36.18	0																	
Planning PM	35.15	0																	
Architect PM	37.54	0																	
Assistant PM Engineer II	39.02	0																	
Assistant PM Engineer I	34.74	17	81.93%	28.46	5	100.00%	34.74	7	90.32%	31.38	5	62.50%	21.71						
Assistant PM Scientist	28.02	0																	
Engineer I	34.13	0																	
Scientist EI	26.98	0																	
Scientist E2	22.00	0																	
Administrative Managers	40.57	0																	
Senior Administrative Assistant	27.89	0.5	2.41%	0.67							0.5	6.25%	1.74						
Intern	15.00	0																	
TOTALS		20.75	100%	\$36.03	5	100%	\$34.74	7.75	100%	\$36.08	8	100%	\$36.79	0	0%	\$0.00	0	0%	\$0.00

HUFF & HUFF, INC. SUMMARY OF INHOUSE DIRECT COSTS

Project: GHA Kilbourne Culvert CCDD

DIRECT

Task 01 - Due Diligence

Trips - Company	120 miles	x	1	x	\$	0.545	=	\$	65.40
Tolls			8	x	\$	1.50	=	\$	12.00
Reproduction	1 sets	x	54	x	\$	0.03	=	\$	1.62
Color copies	1 sets	x	8	x	\$	0.11	=	\$	0.88
			0	x	\$	-	=	\$	-
Task Total									\$ 79.90

Task 02 - Soil/Sediment Sampling & Analysis

Trips - Company	120 miles	x	1	x	\$	0.545	=	\$	65.40
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
			0	x	\$	-	=	\$	-
Task Total									\$ 167.40

Task 03 - LPC Form Document

			0	x	\$	-	=	\$	-
Task Total									\$ -

GRAND TOTAL \$ 247.30

HUFF & HUFF, INC.
SUMMARY OF OUTSIDE DIRECT COSTS
 Project: GHA Kilbourne Culvert CCDD

					<u>OUTSIDE</u>	
<i>Task 01 - Due Diligence</i>						
Records Search			1 x	\$ 250.00	= \$	250.00
			0 x	\$ -	= \$	-
<hr/>						
Task Total					\$	250.00
<i>Task 02 - Soil/Sediment Sampling & Analysis</i>						
VOC	1 ea	x	1 x	\$ 138.00	= \$	138.00
BTEX	1 ea	x	1 x	\$ 55.00	= \$	55.00
SVOC	1 ea	x	2 x	\$ 205.00	= \$	410.00
RCRA total	1 ea	x	2 x	\$ 85.00	= \$	170.00
RCRA SPLP	1 ea	x	1 x	\$ 160.00	= \$	160.00
pH	1 ea	x	4 x	\$ 20.00	= \$	80.00
<hr/>						
Task Total					\$	1,013.00
<i>Task 03 - LPC Form Document</i>						
			0 x	\$ -	= \$	-
<hr/>						
Task Total					\$	-
<hr/>						
GRAND TOTAL					\$	1,263.00

\\Gzachicago\finance\PROPOSALS\Proposal-FY2019\IDOT CECS CPFF BLR1.xls\COST EST

HUFF & HUFF, INC.
SUMMARY OF SERVICES BY OTHERS
Project: GHA Kilbourne Culvert CCDD

OUTSIDE

Task 01 - Due Diligence

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

Task 02 - Soil/Sediment Sampling & Analysis

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

Task 03 - LPC Form Document

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

GRAND TOTAL	\$	-
--------------------	-----------	----------

\\Gzachicago\finance\PROPOSALS\Proposal-FY2019\IDOT CECS CPFF BLR1.xls]COST EST

Exhibit F

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 3rd Order Accuracy horizontally with readings to the nearest 0.1 feet for vertical on gravel or ground and readings to the nearest 0.01 feet for vertical on all other surfaces.

RAILROAD INSURANCE

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

DELIVERABLES

- I. Copies from the CONSULTANT'S field books, showing benchmarks, level circuits, & structure details, such as size and inverts etc.
- II. 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