LOCAL AGENCY		CONSULTANT
Local Agency: Lake County DOT	Illinois Department of Transportation	Consultant: TranSystems Corporation
County: Lake	**Preliminary Engineering Services Agreement For Federal Participation**	Address: 1475 East Woodfield Road Suite 600
Section: 08-00073-08-CH		City: Schaumburg
Project No.: TCSP-IL08(031)		State: IL
Job No.: P-91-044-09		Zip Code: 60173
Contact Name/Phone/E-mail Address: Chuck Gleason 847-377-7447 cgleason@lakecountyil.gov		Contact Name/Phone/E-mail Address: Jeffrey Hall 847-407-5254 jrhall@transystems.com

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 PROJECT. Federal-aid funds allotted to the LA by the state of Illinois under the general supervision of the Illinois Department of Transportation (STATE) will be used entirely or in part to finance engineering services as described under AGREEMENT PROVISIONS.

Project Description

Name Gilmer Road Route CH26(V76) Length _____ Structure No. _____

Termini at Illinois Route 120

Description The realignment of Gilmer Road at Illinois Route 120 includes the Gilmer Road at Ellis Drive, the Illinois Route 120 at Ellis Drive, and the Gilmer Road at Illinois Route 120 intersections and the extension of Ellis Drive from Gilmer Road to U.S. Route 12 and from U.S. Route 12 to Illinois Route 120.

Agreement Provisions

I. THE ENGINEER AGREES,

1. To perform or be responsible for the performance, in accordance with STATE approved design standards and policies, of engineering services for the LA for the proposed improvement herein described.

2. To attend any and all meetings and visit the site of the proposed improvement at any reasonable time when requested by representatives of the LA or STATE.

3. To complete the services herein described within 999 calendar days from the date of the Notice to Proceed from the LA, excluding from consideration periods of delay caused by circumstances beyond the control of the ENGINEER.

4. The classifications of the employees used in the work should be consistent with the employee classifications and estimated man-hours shown in EXHIBIT A. If higher-salaried personnel of the firm, including the Principal Engineer, perform services that are indicated in Exhibit A to be performed by lesser-salaried personnel, the wage rate billed for such services shall be commensurate with the payroll rate for the work performed.

5. That the ENGINEER is qualified technically and is entirely conversant with the design standards and policies applicable for the PROJECT; and that the ENGINEER has sufficient properly trained, organized and experienced personnel to perform the services enumerated herein.

6. That the ENGINEER shall be responsible for the accuracy of the work and shall promptly make necessary revisions or corrections resulting from the ENGINEER's errors, omissions or negligent acts without additional compensation. Acceptance of work by the STATE will not relieve the ENGINEER of the responsibility to make subsequent correction of any such errors or omissions or for clarification of any ambiguities.

7. That all plans and other documents furnished by the ENGINEER pursuant to this AGREEMENT will be endorsed by the ENGINEER and will affix the ENGINEER's professional seal when such seal is required by law. Plans for structures to be built as a part of the improvement will be prepared under the supervision of a registered structural engineer and will affix structural engineer seal when such seal is required by law. It will be the ENGINEER's responsibility to affix the proper seal as required by the Bureau of Local Roads and Streets manual published by the STATE.

8. That the ENGINEER will comply with applicable federal statutes, state of Illinois statutes, and local laws or ordinances of the LA.

9. The undersigned certifies neither the ENGINEER nor I have:

   a. employed or retained for commission, percentage, brokerage, contingent fee or other considerations, any firm or person (other than a bona fide employee working solely for me or the above ENGINEER) to solicit or secure this AGREEMENT,
   b. agreed, as an express or implied condition for obtaining this AGREEMENT, to employ or retain the services of any firm or person in connection with carrying out the AGREEMENT or
   c. paid, or agreed to pay any firm, organization or person (other than a bona fide employee working solely for me or the above ENGINEER) any fee, contribution, donation or consideration of any kind for, or in connection with, procuring or carrying out the AGREEMENT.
   d. are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency,
   e. have not within a three-year period preceding the AGREEMENT been convicted of or had a civil judgment rendered against them for commission of fraud or criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, State or local) transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property,
   f. are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (e) and
   g. have not within a three-year period preceding this AGREEMENT had one or more public transactions (Federal, State or local) terminated for cause or default.

10. To pay its subconsultants for satisfactory performance no later than 30 days from receipt of each payment from the LA.

11. To submit all invoices to the LA within one year of the completion of the work called for in this AGREEMENT or any subsequent Amendment or Supplement.

12. To submit BLR 05613, Engineering Payment Report, to the STATE upon completion of the project (Exhibit B).

13. Scope of Services to be provided by the ENGINEER:

☒ Make such detailed surveys as are necessary for the planning and design of the PROJECT.

☐ Make stream and flood plain hydraulic surveys and gather both existing bridge upstream and downstream high water data and flood flow histories.

☐ Prepare applications for U.S. Army Corps of Engineers Permit, Illinois Department of Natural Resources Office of Water Resources Permit and Illinois Environmental Protection Agency Section 404 Water Quality Certification.

☐ Design and/or approve cofferdams and superstructure shop drawings.

☐ Prepare Bridge Condition Report and Preliminary Bridge Design and Hydraulic Report, (including economic analysis of bridge or culvert types and high water effects on roadway overflows and bridge approaches).

☒ Prepare the necessary environmental and planning documents including the Project Development Report, Environmental Class of Action Determination or Environmental Assessment, State Clearinghouse, Substate Clearinghouse and all necessary environmental clearances.

☒ Make such soil surveys or subsurface investigations including borings and soil profiles as may be required to furnish sufficient data for the design of the proposed improvement. Such investigations to be made in accordance with the current Standard Specifications for Road and Bridge Construction, Bureau of Local Roads and Streets Administrative Policies, Federal-Aid Procedures for Local Highway Improvements or any other applicable requirements of the STATE.

☒ Analyze and evaluate the soil surveys and structure borings to determine the roadway structural design and bridge foundation.

☒ Prepare preliminary roadway and drainage structure plans and meet with representatives of the LA and STATE at the site of the improvement for review of plans prior to the establishment of final vertical and horizontal alignment, location and size of drainage structures, and compliance with applicable design requirements and policies.

☒ 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.

☐ Complete the general and detailed plans, special provisions and estimate of cost. Contract plans shall be prepared in accordance with the guidelines contained in the Bureau of Local Roads and Streets manual. The special provisions and detailed estimate of cost shall be furnished in quadruplicate.

☐ Furnish the LA with survey and drafts in quadruplicate all necessary right-of-way dedications, construction easements and borrow pit and channel change agreements including prints of the corresponding plats and staking as required.

II. THE LA AGREES,

1. To furnish the ENGINEER all presently available survey data and information
2. To pay the ENGINEER as compensation for all services rendered in accordance with this AGREEMENT, on the basis of the following compensation formulas:

Cost Plus Fixed Fee
- ☒ CPFF = 14.5%[DL + R(DL) + OH(DL) + IHDC], or
- ☐ CPFF = 14.5%[DL + R(DL) + 1.4(DL) + IHDC], or
- ☐ CPFF = 14.5%[(2.3 + R)DL + IHDC]

Where:
DL = Direct Labor
IHDC = In House Direct Costs
OH = Consultant Firm's Actual Overhead Factor
R = Complexity Factor

Specific Rate ☐ (Pay per element)

Lump Sum ☐ _____

3. To pay the ENGINEER using one of the following methods as required by 49 CFR part 26 and 605 ILCS 5/5-409:

☒ With Retainage

a) **For the first 50% of completed work**, and upon receipt of monthly invoices from the ENGINEER and the approval thereof by the LA, monthly payments for the work performed shall be due and payable to the ENGINEER, such payments to be equal to 90% of the value of the partially completed work minus all previous partial payments made to the ENGINEER.
b) **After 50% of the work is completed**, and upon receipt of monthly invoices from the ENGINEER and the approval thereof by the LA, monthly payments covering work performed shall be due and payable to the ENGINEER, such payments to be equal to 95% of the value of the partially completed work minus all previous partial payments made to the ENGINEER.
c) **Final Payment** – Upon approval of the work by the LA but not later than 60 days after the work is completed and reports have been made and accepted by the LA and the STATE, a sum of money equal to the basic fee as determined in this AGREEMENT less the total of the amounts of partial payments previously paid to the ENGINEER shall be due and payable to the ENGINEER.

☐ Without Retainage

a) **For progressive payments** – Upon receipt of monthly invoices from the ENGINEER and the approval thereof by the LA, monthly payments for the work performed shall be due and payable to the ENGINEER, such payments to be equal to the value of the partially completed work minus all previous partial payments made to the ENGINEER.
b) **Final Payment** – Upon approval of the work by the LA but not later than 60 days after the work is completed and reports have been made and accepted by the LA and STATE, a sum o money equal to the basic fee as determined in this AGREEMENT less the total of the amounts of partial payments previously paid to the ENGINEER shall be due and payable to the ENGINEER.

4. The recipient shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR part 26. The recipient shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31U.S.C. 3801 et seq.).

III. IT IS MUTALLY AGREED,

1. That no work shall be commenced by the ENGINEER prior to issuance by the LA of a written Notice to Proceed.

2. That tracings, plans, specifications, estimates, maps and other documents prepared by the ENGINEER in accordance with this AGREEMENT shall be delivered to and become the property of the LA and that basic survey notes, sketches, charts and other data prepared or obtained in accordance with this AGREEMENT shall be made available, upon request, to the LA or to the STATE, without restriction or limitation as to their use.

3. That all reports, plans, estimates and special provisions furnished by the ENGINEER shall be in accordance with the current Standard Specifications for Road and Bridge Construction, Bureau of Local Roads and Streets Administrative Policies, Federal-Aid Procedures for Local Highway Improvements or any other applicable requirements of the STATE, it being understood that all such furnished documents shall be approved by the LA and the STATE before final acceptance. During the performance of the engineering services herein provided for, the ENGINEER shall be responsible for any loss or damage to the documents herein enumerated while they are in the ENGINEER's possession and any such loss or damage shall be restored at the ENGINEER's expense.

4. That none of the services to be furnished by the ENGINEER shall be sublet, assigned or transferred to any other party or parties without written consent of the LA. The consent to sublet, assign or otherwise transfer any portion of the services to be furnished by the ENGINEER shall not be construed to relieve the ENGINEER of any responsibility for the fulfillment of this agreement.

5. To maintain, for a minimum of 3 years after the completion of the contract, adequate books, records and supporting documents to verify the amounts, recipients and uses of all disbursements of funds passing in conjunction with the contract; the contract and all books, records and supporting documents related to the contract shall be available for review and audit by the Auditor General and the STATE; and to provide full access to all relevant materials. Failure to maintain the books, records and supporting documents required by this section shall establish a presumption in favor of the STATE for the recovery of any funds paid by the STATE under the contract for which adequate books, records and supporting documentation are not available to support their purported disbursement.

6. The payment by the LA in accordance with numbered paragraph 3 of Section II will be considered payment in full for all services rendered in accordance with this AGREEMENT whether or not they be actually enumerated in this AGREEMENT.

7. That the ENGINEER shall be responsible for any and all damages to property or persons arising out of an error, omission and/or negligent act in the prosecution of the ENGINEER's work and shall indemnify and save harmless the LA, the STATE, and their officers, agents and employees from all suits, claims, actions or damages of any nature whatsoever resulting there from. These indemnities shall not be limited by the listing of any insurance policy.

8. 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 drawings, plats, surveys, reports, permits, agreements, soils and foundation analysis, provisions, specifications, partial and completed estimates and data, if any from soil survey and subsurface investigation with the understanding that all such material becomes the property of the LA. The LA will be responsible for reimbursement of all eligible expenses to date of the written notice of termination.

9. This certification is required by the Drug Free Workplace Act (30ILCS 580). The Drug Free Workplace Act requires that no grantee or contractor shall receive a grant or be considered for the purpose of being awarded a contract for the procurement of any property or service from the State unless that grantee or contractor will provide a drug free workplace. False certification or violation of the certification may result in sanctions including, but not limited to, suspension of contract or grant payments, termination of a contract or grant and debarment of the contracting or grant opportunities with the State for at least one (1) year but no more than five (5) years.

   For the purpose of this certification, "grantee" or "contractor" means a corporation, partnership or other entity with twenty-five (25) or more employees at the time of issuing the grant, or a department, division or other unit thereof, directly responsible for the specific performance under a contract or grant of $5,000 or more from the State, as defined in the Act.

   The contractor/grantee certifies and agrees that it will provide a drug free workplace by:
   a. Publishing a statement:
      (1) Notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance, including cannabis, is prohibited in the grantee's or contractor's workplace.
      (2) Specifying the actions that will be taken against employees for violations of such prohibition.
      (3) Notifying the employee that, as a condition of employment on such contract or grant, the employee will:
         (a) abide by the terms of the statement; and
         (b) notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.
   b. Establishing a drug free awareness program to inform employees about:
      (1) The dangers of drug abuse in the workplace;
      (2) The grantee's or contractor's policy of maintaining a drug free workplace;
      (3) Any available drug counseling, rehabilitation and employee assistance program; and
      (4) The penalties that may be imposed upon an employee for drug violations.
   c. Providing a copy of the statement required by subparagraph (a) to each employee engaged in the performance of the contract or grant and to post the statement in a prominent place in the workplace.
   d. Notifying the contracting or granting agency within ten (10) days after receiving notice under part (B) of paragraph (3) of subsection (a) above from an employee or otherwise receiving actual notice of such conviction.
   e. Imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by,
   f. Assisting employees in selecting a course of action in the event drug counseling, treatment and rehabilitation is required and indicating that a trained referral team is in place.
   g. Making a good faith effort to continue to maintain a drug free workplace through implementation of the Drug Free Workplace Act.

10. The ENGINEER or subconsultant shall not discriminate on the basis of race, color, national origin or sex in the performance of this AGREEMENT. The ENGINEER shall carry out applicable requirements of 49 CFR part 26 in the administration of DOT assisted contracts. Failure by the ENGINEER to carry out these requirements is a material breach of this AGREEMENT, which may result in the termination of this AGREEMENT or such other remedy as the LA deems appropriate.

Agreement Summary

Prime Consultant:	TIN Number	Agreement Amount
TranSystems Corporation	43-0839725	$1,504,251.04

Sub-Consultants:	TIN Number	Agreement Amount
Jorgensen & Associates, Inc.	36-3668574	$183,499.76
Cardno ENTRIX, Inc.	76-0265862	$94,048.00
Regina Webster & Associates, Inc.	36-4302511	$13,100.72
Wang Engineering, Inc.	36-3191909	$75,158.84
	Sub-Consultant Total:	$365,807.32
	Prime Consultant Total:	$1,504,251.04
	Total for all Work:	$1,870,058.36

Executed by the LA: Lake County Division of Transportation
(Municipality/Township/County)

ATTEST:

By: _____ By: _____

_____ Clerk Title: _____

(SEAL)

Executed by the ENGINEER:

ATTEST: TranSystems Corporation

By: _____ By: _____

Title: Assistant Vice President Title: Senior Vice President

Exhibit A - Preliminary Engineering

Route: Gilmer Road at IL120
Local Agency: Lake County Division of Transportation
(Municipality/Township/County)
Section: 08-00073-08-CH
Project: TCSP-IL08(031)
Job No.: P-91-044-09

*Firms **approved rates** on file with IDOT's Bureau of Accounting and Auditing:

Overhead Rate (OH) 151.34 %
Complexity Factor (R) 0.00
Calendar Days 1095

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 ☐

Cost Estimate of Consultant's Services in Dollars

Element of Work	Employee Classification	Man-Hours	Payroll Rate	Payroll Costs (DL)	Overhead*	Services by Others	In-House Direct Costs (IHDC)	Profit	Total
1-Coordination	Various (attached)	532	$ 55.45	$ 29,500.50	$ 44,646.06	$ -	$ 4,080.00	$ 11,342.85	$ 89,569.41
2-Survey	Various (attached)	300	$ 51.96	$ 15,588.43	$ 23,591.54	$ 183,499.76	$ 100.00	$ 5,695.60	$ 228,475.33
3-Environmental Studies	Various (attached)	2,488	$ 45.54	$ 113,302.99	$171,472.74	$ 94,048.00	$ -	$ 41,292.48	$ 420,116.21
4-Drainage Studies	Various (attached)	2,420	$ 36.67	$ 88,745.99	$134,308.18	$ -	$ -	$ 32,342.85	$ 255,397.03
5-Traffic Studies	Various (attached)	1,904	$ 37.46	$ 71,328.97	$107,949.26	$ 13,100.72	$ -	$ 25,995.34	$ 218,374.30
6-Geotechnical Studies	Various (attached)	112	$ 47.74	$ 5,346.48	$ 8,091.37	$ 75,158.84	$ -	$ 1,948.49	$ 90,545.18
7-Design Studies	Various (attached)	2,712	$ 37.10	$ 100,603.21	$152,252.90	$ -	$ -	$ 36,664.14	$ 289,520.26
8-Public Involvement	Various (attached)	1,264	$ 36.34	$ 45,930.29	$ 69,510.90	$ -	$ 10,840.00	$ 18,310.77	$ 144,591.97
9-Project Report	Various (attached)	616	$ 41.70	$ 25,685.88	$ 38,873.02	$ -	$ -	$ 9,361.04	$ 73,919.94
10-Project Administration	Various (attached)	288	$ 56.31	$ 16,216.14	$ 24,541.50	$ -	$ 11,250.00	$ 7,541.11	$ 59,548.75
Totals		12,636	$ 40.54	$ 512,248.89	$775,237.47	$ 365,807.32	$ 26,270.00	$ 190,494.67	$1,870,058.36

Illinois Department of Transportation

Payroll Escalation Table
Fixed Raises

FIRM NAME TranSystems
PRIME/SUPPLEMENT

DATE 03/19/12
PTB NO.

CONTRACT TERM	36	**MONTHS**	**OVERHEAD RATE**	151.34%
START DATE	10/15/2012		**COMPLEXITY FACTOR**	0
RAISE DATE	4/1/2013		**% OF RAISE**	3.00%

ESCALATION PER YEAR

10/15/2012 - 4/1/2013	4/2/2013 - 4/1/2014	4/2/2014 - 4/1/2015	4/2/2015 - 10/1/2015	
6 / 36	12 / 36	12 / 36	6 / 36	
= 16.67%	34.33%	35.36%	18.21%	
= 1.0458				

The total escalation for this project would be: **4.58%**

BDE 025 (Rev. 11/06)

Illinois Department of Transportation

Payroll Rates

FIRM NAME TranSystems **DATE** 03/19/12
PRIME/SUPPLEMENT
PTB NO.

ESCALATION FACTOR **4.58%**

CLASSIFICATION	CURRENT RATE	ESCALATED RATE
Project Manager (Highway)	$ 64.52	$67.47
Senior Project Manager (Highway)	$ 70.00	$70.00
Project Engineer (Highway)	$ 55.54	$58.08
Design Engineer III (Highway)	$ 45.40	$47.48
Design Engineer II (Highway)	$ 36.71	$38.39
Design Engineer I (Highway)	$ 28.76	$30.08
CADD Technician III	$ 30.81	$32.22
CADD Technician I	$ 22.71	$23.75
Administrative Assistant	$ 26.30	$27.50
		$0.00
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Illinois Department of Transportation

Cost Estimate of Consultant Services (CPFF)

Firm	TranSystems
Route	Gilmer Road at IL120
Section	08-00073-08-CH
County	Lake
Job No.	P-91-044-09
PTB & Item	

Date 03/19/12

Overhead Rate **151.34%**

Complexity Factor **0**

DBE Drop Box	Item	Manhours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Fixed Fee (E)	Outside Direct Costs (F)	Services By Others (G)	DBE Total (B+C+D+E+F+G)	Total (B+C+D+E+F+G)	% of Grand Total
	1-Coordination	532	29,500.50	44,646.06	4,080.00	11,342.85				89,569.41	4.79%
	2-Survey	300	15,588.43	23,591.54	100.00	5,695.60		183,499.76		228,475.33	12.22%
	3-Environmental Studies	2488	113,302.99	171,472.74		41,292.48		94,048.00		420,116.21	22.47%
	4-Drainage Studies	2420	88,745.99	134,308.18		32,342.85				255,397.03	13.66%
	5-Traffic Studies	1904	71,328.97	107,949.26		25,995.34		13,100.72		218,374.30	11.68%
	6-Geotechnical Studies	112	5,346.48	8,091.37		1,948.49		75,158.84		90,545.18	4.84%
	7-Design Studies	2712	100,603.21	152,252.90		36,664.14				289,520.26	15.48%
	8-Public Involvement	1264	45,930.29	69,510.90	10,840.00	18,310.77				144,591.97	7.73%
	9-Project Report	616	25,685.88	38,873.02		9,361.04				73,919.94	3.95%
	10-Project Administration	288	16,216.14	24,541.50	11,250.00	7,541.11				59,548.75	3.18%
	TOTALS	12,636	512,248.89	775,237.47	26,270.00	190,494.67	0.00	365,807.32	0.00	1,870,058.36	100.00%

DBE 0.00%

Illinois Department of Transportation

Average Hourly Project Rates

Route	Gilmer Road at IL120
Section	08-00073-08-CH
County	Lake
Job No.	P-91-044-09
PTB/Item	

Consultant TranSystems

Date 03/19/12

Sheet 1 **OF** 2

Payroll Classification	Avg Hourly Rates	Total Project Rates			1-Coordination			2-Survey			3-Environmental Studies			4-Drainage Studies			5-Traffic Studies		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Project Manager (Highway)	67.47	1504	11.90%	8.03	258	48.50%	32.72	140	46.67%	31.49	86	3.46%	2.33	242	10.00%	6.75	190	9.98%	6.73
Senior Project Manager (Highw	70.00	216	1.71%	1.20	54	10.15%	7.11				162	6.51%	4.56						
Project Engineer (Highway)	58.08	916	7.25%	4.21							624	25.08%	14.57						
Design Engineer III (Highway)	47.48	560	4.43%	2.10							560	22.51%	10.69						
Design Engineer II (Highway)	38.39	3864	30.58%	11.74	204	38.35%	14.72	160	53.33%	20.47	160	6.43%	2.47	784	32.40%	12.44	774	40.65%	15.61
Design Engineer I (Highway)	30.08	4316	34.16%	10.27	16	3.01%	0.90				784	31.51%	9.48	1210	50.00%	15.04	648	34.03%	10.24
CADD Technician III	32.22	888	7.03%	2.26							112	4.50%	1.45	184	7.60%	2.45	280	14.71%	4.74
CADD Technician I	23.75	300	2.37%	0.56													12	0.63%	0.15
Administrative Assistant	27.50	72	0.57%	0.16															
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TOTALS		12636	100%	$40.54	532	100%	$55.45	300	100%	$51.96	2488	100%	$45.54	2420	100%	$36.67	1904	100%	$37.46

Illinois Department of Transportation

Average Hourly Project Rates

Route	Gilmer Road at IL120
Section	08-00073-08-CH
County	Lake
Job No.	P-91-044-09
PTB/Item	

Consultant TranSystems

Date 03/19/12

Sheet 2 **OF** 2

Payroll Classification	Avg Hourly Rates	6-Geotechnical Studies			7-Design Studies			8-Public Involvement			9-Project Report			10-Project Administration					
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Project Manager (Highway)	67.47	44	39.29%	26.51	136	5.01%	3.38	168	13.29%	8.97	60	9.74%	6.57	180	62.50%	42.17			
Senior Project Manager (Highv	70.00																		
Project Engineer (Highway)	58.08				136	5.01%	2.91				120	19.48%	11.31	36	12.50%	7.26			
Design Engineer III (Highway)	47.48																		
Design Engineer II (Highway)	38.39	40	35.71%	13.71	1220	44.99%	17.27	368	29.11%	11.18	154	25.00%	9.60						
Design Engineer I (Highway)	30.08	28	25.00%	7.52	1220	44.99%	13.53	256	20.25%	6.09	154	25.00%	7.52						
CADD Technician III	32.22							184	14.56%	4.69	128	20.78%	6.70						
CADD Technician I	23.75							288	22.78%	5.41									
Administrative Assistant	27.50													72	25.00%	6.88			
TOTALS		112	100%	$47.74	2712	100%	$37.10	1264	100%	$36.34	616	100%	$41.70	288	100%	$56.31	0	0%	$0.00

Illinois Department of Transportation

Direct Costs Check Sheet

Firm Name: TranSystems PTB/Item No: _____

REQUIRED – DIRECT COSTS WILL ONLY BE ACCEPTED FOR INCLUSION IN CONTRACT WHEN DOCUMENTED ON THIS FORM.
(Indicate only rate and quantities for this specific project.)

Item	Allowable	Contract (1) Rate	Quantity (n/a for work orders)	Total
Per Diem	Up to State Rate Maximum			$0.00
Lodging (Overnight)	Up to State Rate Maximum			$0.00
Lodging (Extended)	Actual Cost (based on IDOT's and firm's policy)			$0.00
Air Fare Coach Rate (with two weeks' notice)	As Approved			$0.00
Vehicles: Mileage	Up to State Rate Maximum	$0.51	8,000.00	$4,080.00
Daily Rate (owned or leased)	$45/day			$0.00
Overtime	(Premium Portion)			$0.00
Tolls	Actual Cost			$0.00
Digital Photo Processing	Actual Cost			$0.00
Photo Processing	Actual Cost			$0.00
Cell Phones – (traffic systems, survey, phase III only)	$70/month/phone (maximum) – Phase III (max. of three without IDOT approval)			$0.00
Telephone Usage (traffic system monitoring)	Actual Cost			$0.00
2-Way Radio (survey or phase III only)	Actual Cost			$0.00
Overnight Delivery/Postage/Courier Service	Actual Cost	$25.00	50.00	$1,250.00
Copies of Deliverables/Mylars (in-house)	Actual Cost			$0.00
Copies of Deliverables/Mylars (outside)	Actual Cost	$0.20	50,000.00	$10,000.00
Specific Insurance (required for project)	Actual Cost			$0.00
CADD	Actual Cost (max. $15.00/hour)			$0.00
Monuments (permanent)	Actual Cost			$0.00
Advertisements	Actual Cost	$300.00	8.00	$2,400.00
Web Site	Actual Cost	$1,000.00	1.00	$1,000.00
Facility Rental for Public Meetings & Exhibits/Renderings & AV	Actual Cost	$2,000.00	2.00	$4,000.00
Transcriptions (specific to project)	Actual Cost	$1,000.00	2.00	$2,000.00
Recording Fees	Actual Cost			$0.00
Courthouse Fees	Actual Cost			$0.00
Testing of Soil Samples	Actual Cost			$0.00
Lab Services	Actual Cost			$0.00
Storm Sewer Cleaning and Televising	Actual Cost (requires 2-3 quotes)			$0.00
Traffic Control and Protection	Actual Cost (requires 2-3 quotes)			$0.00
Aerial Photography and Mapping	Actual Cost (requires 2-3 quotes)	$100.00	1.00	$100.00
Utility Exploratory Trenching	Actual Cost (requires 2-3 quotes)			$0.00
Shift Differential	Actual Cost (based on firm's policy)			$0.00
PROJECT Site Travel	Actual Cost (based on IDOT's and firm's policy)			$0.00
	Actual Cost (requires 2-3 quotes)			$0.00
	Actual Cost (requires 2-3 quotes)			$0.00
	Include 2-3 vendor quotes and explanation for necessity.			$0.00
Printing/Copying 11x17 (color)	Actual Cost	$1.00	1,000.00	$1,000.00
Mailing	Actual Cost	$0.44	1,000.00	$440.00
				$0.00
TOTAL				$26,270.00

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

Exhibit B

Illinois Department of Transportation

Engineering Payment Report

Prime Consultant

Name	TranSystems Corporation
Address	Schaubmurg, IL
Telephone	847-605-9600
TIN Number	

Project Information

Local Agency	Lake County Division of Transportation
Section Number	08-00073-08-CH
Project Number	TCSP-IL08(031)
Job Number	P-91-044-09

This form is to verify the amount paid to the Sub-consultant on the above captioned contract. Under penalty of law for perjury or falsification, the undersigned certifies that work was executed by the Sub-consultant for the amount listed below.

Sub-Consultant Name	TIN Number	Actual Payment from Prime
Jorgensen & Associates, Inc.	36-3668574	
Cardno ENTRIX	76-0265862	
Regina Webtster & Associates, Inc.	36-4302511	
Wang Engineering, Inc.	36-3191909	
	Sub-Consultant Total:	
	Prime Consultant Total:	
	Total for all Work Completed:	

Signature and title of Prime Consultant

Date

Note: The Department of Transportation is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under state and federal law. Disclosure of this information is REQUIRED and shall be deemed as concurring with the payment amount specified above.

EXHIBIT C

SCOPE OF SERVICES

EXHIBIT C - PROJECT SCOPE OF SERVICES
Gilmer Road at Illinois Route 120
Section Number 08-00073-08-CH

The scope consists of a Federally Funded Phase 1 Preliminary Engineering for the realignment of Gilmer Road at Illinois Route 120 in Volo. The scope of work includes adding a free-flow right-turn lane from Gilmer Road to Ellis Drive, adding a traffic signal at the Illinois Route 120 at Ellis Drive intersection, removing the traffic signal and converting Gilmer Road to right-in-right-out at Illinois Route 120, and extending Ellis Drive from Gilmer Road to U.S. Route 12. In addition, the project will study the Volo Village Road at U.S. Route 12 intersection and extending Ellis Drive from U.S. Route 12 to Illinois Route 120. The scope of work includes non-motorized travel studies along the improved roadways but does not incude a proposed bike path from the Darrell Road at Fisher Road intersection east to the Gilmer Road at Ellis Drive intersection.

The scope of work consists of coordination, survey, environmental studies, drainage studies, traffic studies, geotechnical studies, design studies, public involvement, project development report, and project management and administration. Plats, structural studies, environmental permitting, and contract plans are not included in the scope of work as they will be included in the future Phase 2 Design Engineering scope of work.

1. Coordination
    a. Meet and coordinate with LCDOT (12 meetings assumed).
    b. Meet and coordinate with IDOT (six meetings assumed).
    c. Meet and coordinate with ISTHA (three meetings assumed).
    d. Attend FHWA/IDOT coordination meetings (six meetings assumed).
    e. Meet and coordinate with the Lake County Stormwater Management Commission (two meetings assumed).
    f. Meet and coordinate with the Village of Volo (six meetings assumed).
    g. Meet and coordinate with the Village of Lakemoor (six meetings assumed).
    h. Coordinate with utility companies regarding utility locations
        i. Determine which utilities and facilities are present in the project area.
        ii. Secure preliminary utility location information from utilities.
        iii. Begin utility coordination process (two meetings assumed).
    i. LCDOT will submit Job Number form to IDOT Bureau of Local Roads and Streets.

2. Survey
    a. Conduct full topographic survey according to attached LCDOT Survey Procedures. Limits of initial survey will include:
        i. Volo Village Road at Illinois Route 120 intersection
        ii. Volo Village Road at U.S. Route 12 intersection
        iii. Ellis Drive at Illinois Route 120 intersection
        iv. Gilmer Road at Illinois Route 120 intersection
        v. Illinois Route 120 at U.S. Route 12 intersection
        vi. Ellis Drive at Gilmer Road intersection
        vii. Extended Ellis Drive at U.S. Route 12 intersection
        viii. Establish horizontal and vertical controls.
        ix. Establish existing Gilmer Road centerline alignment with control points and four point ties.
        x. Stake existing centerlines at 100-foot stations.
        xi. Full topography. Topography will extend to 10 feet beyond proposed right-of-way.
        xii. Cross sections at 50-foot increments. Cross section limits will extend to 10 feet beyond existing right-of-way and 30 feet at entrances.
        xiii. Drainage survey.
        xiv. Culvert survey.
        xv. Wetland survey.

xvi. Tree survey.
xvii. Sign survey.
xviii. Soil boring locations.

b. Once preliminary studies are completed, conduct full topographic pick-up survey of:
   i. Extended Ellis Drive from Gilmer Road to U.S. Route 12
   ii. Extended Ellis Drive from U.S. Route 12 to Illinois Route 120
   iii. Potential expanded detention pond location at east corner of Ellis Drive at Gilmer Road
   iv. Potential detention pond location at northeast corner of Ellis Drive at Illinois Route 120
   v. Potential detention pond location at northeast corner of Volo Village Road at Illinois Route 120
   vi. Potential detention pond location at northwest corner of Volo Village Road at Illinois Route 120
   vii. Full topography. Topography will extend to 10 feet beyond proposed right-of-way.
   viii. Cross sections at 50-foot increments. Cross section limits will extend to 10 feet beyond proposed right-of-way.
   ix. Drainage survey.
   x. Culvert survey.
   xi. Wetland survey.
   xii. Tree survey.
   xiii. Sign survey.
   xiv. Soil boring locations.
c. Dependent on the extent of improvements on each roadway, conduct full topographic pick-up survey along:
   i. Illinois Route 120 from Fisher Road to west of Volo Village Road
   ii. Illinois Route 120 from east of Volo Village Road to west of U.S. Route 12
   iii. Illinois Route 120 from east of Ellis Drive to Illinois Route 60
   iv. U.S. Route 12 from north of Volo Village Road
   v. U.S. Route 12 from south of Illinois Route 120 to north of extended Ellis Drive
   vi. U.S. Route 12 from south of extended Ellis Drive
   vii. Volo Village Road from east of U.S. Route 12 to west of Illinois Route 120
   viii. Gilmer Road from south of Illinois Route 120 to north of Ellis Drive
   ix. Ellis Drive from north of Gilmer Road to south of Illinois Route 120
   x. Full topography. Topography will extend to 10 feet beyond proposed right-of-way.
   xi. Cross sections at 50-foot increments. Cross section limits will extend to 10 feet beyond existing right-of-way and 30 feet at entrances.
   xii. Drainage survey.
   xiii. Culvert survey.
   xiv. Wetland survey.
   xv. Tree survey.
   xvi. Sign survey.
   xvii. Soil boring locations.
d. Proposed centerline staking will be included in Phase 2 scope of work.
e. Download topographic survey and cross sections into Geopak and MicroStation for use in design. Plot survey at 1"=20' plan, 1"=2' vertical profile, 1"=5' horizontal cross section, and 1"=5' vertical cross section.
f. Plats will be prepared in Phase 2.

3. Environmental Studies
   a. Prepare Environmental Survey Request Form and Exhibits and coordinate through IDOT to obtain biological and cultural resources sign-off for the project.

b. Perform a full photographic survey of the project area.
c. Complete Introduction of Abbreviated Environmental Assessment.
d. Complete Purpose and Need of Abbreviated Environmental Assessment.
e. Coordinate affected environmental resources of Abbreviated Environmental Assessment.
    i. Social / Economic
        1. Community cohesion
        2. Environmental justice and title VI
        3. Public facilities and services
        4. Changes in travel patterns and access
        5. Relocations (business and residential)
        6. Economic impacts
        7. Land use
        8. Growth and economic development
        9. Pedestrian and bicycle facilities
            a. Incorporate IDOT complete streets policy
            b. Incorporate LCDOT complete streets policy
    ii. Agricultural
        1. Farms and farmland conversion
            a. Drain Tiles
                i. Conduct drain tile survey within survey limits.
                ii. Prepare Drain Tile Survey Memorandum
        2. Prime and important soils
        3. Severed / landlocked parcels
        4. Adverse travel
    iii. Cultural
        1. Archeological sites
        2. Historic bridges
        3. Historic districts
            a. The National Register of Historic Places does not contain any properties within the project area.
            b. The National Historic Landmarks in Illinois does not contain any properties within the project area.
        4. Historic buildings
            a. Submit requested photographs of all buildings within the project limits for cultural resource sign-off.
            b. It is anticipated that some buildings will require additional documentation on impacts to the property. Submit plan and profile at each requested building location for determination of no adverse impacts.
            c. It is anticipated that no historical impacts will be encountered as a result of the cultural resource results. Section 106 and 4(f) coordination for historical impacts is not anticipated.
    iv. Air quality
        1. Microscale analysis
            a. Prepare a COSIM air quality pre-screen for seven receptor sites. After pre-screen results, prepare COSIM worksheet for seven receptor sites.
        2. Air quality conformity
        3. Constructed related particulate matter
        4. Mobile source air toxics

v. Noise
    1. Noise Analysis
        a. Conduct noise analysis along Ellis Drive extension from Gilmer Road to U.S. Route 12 and from U.S. Route 12 to Illinois Route 120 for undeveloped properties, prepare Technical Noise Memorandum, and share with local officials for land use planning purposes. Noise monitoring and public involvement is not anticipated and not included.
        b. Conduct noise analysis for widening along U.S. Route 12 from Ellis Drive extension to Volo Village Road for commercial properties, prepare Technical Noise Memorandum, and share with local officials for land use planning purposes. Noise monitoring and public involvement is not anticipated and not included.
        c. Conduct noise analysis for widening along Illinois Route 120 from Volo Village Road to Ellis Drive for commercial properties, prepare Technical Noise Memorandum, and share with local officials for land use planning purposes. Noise monitoring and public involvement is not anticipated and not included.
        d. Conduct noise analysis for additional traffic along Ellis Drive from Gilmer Road to Illinois Route 120 for residential properties, prepare Technical Noise Memorandum. Noise monitoring is included but public involvement is not anticipated and not included.
    2. Construction noise
vi. Natural resources
    1. Upland plant communities
        a. Tree Survey
            i. Conduct tree survey within survey limits detailed in 2a.
                1. Document the species, health, structure, origin, and location of all trees greater than or equal to 4 inches DBH (diameter at breast height or 4.5 feet above ground surface) and all landscaped/ornamental trees or trees planted for environmental mitigation and habitat preservation/enhancement regardless of DBH.
                2. Trees will not be tagged with metal tags and nails. Trees will be marked with high visibility ribbon to be removed once survey is complete.
                3. Prepare tree survey memo.
            ii. Conduct tree survey within survey limits detailed in 2b.
                1. Document the species, health, structure, origin, and location of all trees greater than or equal to 4 inches DBH (diameter at breast height or 4.5 feet above ground surface) and all landscaped/ornamental trees or trees planted for environmental mitigation and habitat preservation/enhancement regardless of DBH.
                2. Trees will not be tagged with metal tags and nails. Trees will be marked with high visibility ribbon to be removed once survey is complete.
                3. Append tree survey memo.
            iii. Conduct tree survey within survey limits detailed in 2c.

1. Document the species, health, structure, origin, and location of all trees greater than or equal to 4 inches DBH (diameter at breast height or 4.5 feet above ground surface) and all landscaped/ornamental trees or trees planted for environmental mitigation and habitat preservation/enhancement regardless of DBH.
2. Trees will not be tagged with metal tags and nails. Trees will be marked with high visibility ribbon to be removed once survey is complete.
3. Append tree survey memo.

2. Wildlife resources
3. Threatened and endangered species
    a. Obtain biological sign-off from IDNR and USFWS

vii. Water quality
viii. Groundwater resources
ix. Floodplains
x. Wetlands
1. Conduct wetland delineation within survey limits.
2. Wetland Delineation Report
    a. Prepare wetland delineation report.
    b. Prepare Wetland Impact Evaluation Forms. It is anticipated that wetland banking will be used for mitigation in Phase 2.
3. Wetland Jurisdictional Determination
    a. Prepare wetland jurisdictional determination. It is anticipated that the County will obtain signatures of property owners for the jurisdictional determination.
    b. Obtain USFWS threatened and endangered species sign-off.
    c. Obtain IDNR threatened and endangered species sign-off.

xi. Special Waste
1. Prepare Special Waste Screening.
2. If Special Waste Screening recommends a Preliminary Environmental Site Assessment (PESA) be performed, prepare PESA report for risk assessment of special waste. If required, PSI will be included in Phase 2 scope of work.

xii. Special lands
1. It is anticipated that no proposed right-of-way is needed from any special land and that Section 4(f), Section 6(f), OSLAD, INAI Sites, Nature Preserves, and Land & Water Reserves coordination is not required.

xiii. Indirect and Cumulative Impacts
1. Indirect impacts
2. Cumulative impacts

xiv. Permits
1. LCSMC Watershed Development Ordinance (WDO) Permit
    a. Identify requirements for modifying a watercourse draining 20 or more acres.
    b. Identify compensatory storage requirements and location for fill in floodplain.
    c. Identify detention requirements for added impervious area greater than 1.5 acres.

d. Identify wetland mitigation requirements for banking.
e. Identify water quality requirements and location for stormwater treatment.

2. Identify permit needs required in Phase 2. The following permits may be included in the Phase 2 scope of work:
   a. ACOE Section 404 permit / IEPA 401 certification.
   b. IDNR OWR Joint permit is not anticipated.
   c. Agricultural Resources permit is not anticipated.
   d. IDOT Borrow / Use Areas permit.
   e. NPDES Stormwater permit.

f. Review impacts on adjacent properties and identify alternative designs to minimize impacts.
g. Analyze affected environmental resources impacts and mitigation of Abbreviated Environmental Assessment.
h. Complete Alternatives of Abbreviated Environmental Assessment.
i. Complete Draft Abbreviated Environmental Assessment and submit to LCDOT and IDOT.
j. Complete Final Abbreviated Environmental Assessment and submit finding to IDOT for Categorical Exclusion.
k. All associated permit fees will be paid directly by LCDOT.

4. Drainage Studies
   a. Prepare a General Location Drainage Map.
   b. Identify existing drainage systems, drainage boundaries, existing drainage problems, and outfall constraints. Prepare Existing Drainage Plan.
   c. Investigate identified drainage problems (four locations assumed).
   d. Identify floodplains
      i. Obtain LCSMC existing floodplain studies.
      ii. Obtain FEMA floodplain maps.
      iii. Determine elevation, storages, and discharges for two depressional floodplains within project limits.
      iv. Obtain approval from LCSMC on depressional base flood elevations.
   e. Major Drainage Features
      i. Analyze four existing major culvert crossings based on size criteria.
      ii. Analyze four existing major culvert crossings draining greater than 20 acres
      iii. Analyze two existing major culvert crossings draining greater than 200 acres
      iv. Analyze three existing major culvert crossings draining greater than 1 square mile
      v. Prepare culvert sizing for 13 proposed major culverts.
      vi. Identify right-of-way necessary to construct proposed culverts including riprap needs.
   f. Determine Design Criteria for IDOT routes, LCDOT routes, and Village routes.
   g. Evaluate outlets (20 outlets assumed).
   h. Preliminary detention
      i. Calculate added impervious.
      ii. Determine required detention to meet IDOT criteria.
      iii. Determine required detention to meet LCSMC criteria.
      iv. Provide preliminary detention pond design for four locations.
   i. Analyze cross sections for drainage purposes.
   j. Analyze drainage alternatives (two alternatives assumed).
   k. Preliminary drainage design
      i. Identify preferred drainage alternative of storm sewers or ditches.
      ii. Develop preliminary layout and sizing for the proposed storm sewers and /or ditches.

iii. Identify right-of-way necessary to meet preliminary drainage layout.
iv. Prepare Proposed Drainage Plan.

l. Preliminary compensatory storage
   i. Calculate depressional floodplain fill and compensatory storage mitigation requirements.
   ii. Identify right-of-way necessary to construct compensatory storage.
m. IDNR-OWR Permit is not anticipated.
n. Prepare Erosion and Sediment Control Data Table
o. Preliminary water quality
   i. Determine if water quality ditches can be used or if stormwater treatment structures are required.
   ii. Identify right-of-way necessary to meet water quality requirements.
p. Prepare and submit Draft Location Drainage Study to IDOT.
q. Revise and submit Pre-Final Location Drainage Study to IDOT.
r. Revise and submit Final Location Drainage Study to IDOT.
s. Obtain Location Drainage Study approval from IDOT.

5. Traffic Studies
   a. Existing traffic count data
      i. Obtain traffic count data and existing ADT data from LCDOT.
      ii. Obtain traffic count data and existing ADT data from IDOT.
      iii. Obtain traffic count data and existing ADT from Volo.
      iv. Obtain traffic studies from Volo.
   b. Conduct manual peak hour (two hour AM and two hour PM) traffic counts at the following intersections:
      i. Volo Village Road at Illinois Route 120 intersection
      ii. Volo Village Road at U.S. Route 12 intersection
      iii. Ellis Drive at Illinois Route 120 intersection
      iv. Gilmer Road at Illinois Route 120 intersection
      v. Illinois Route 120 at U.S. Route 12 intersection
      vi. Ellis Drive at Gilmer Road intersection
      vii. Fisher Road at Illinois Route 120 intersection
      viii. Illinois Route 60 at Illinois Route 120 intersection
   c. Conduct tube counts for the following roadways:
      i. Illinois Route 120 west of Volo Village Road
      ii. Illinois Route 120 east of Ellis Drive
      iii. U.S. Route 12 south of Illinois Route 120
      iv. U.S. Route 12 north of Volo Village Road
      v. Gilmer Road south of Ellis Drive
   d. Prepare projected 2040 traffic volumes based on a review of the existing traffic data, traffic counts, traffic studies, and projected traffic growth.
      i. Prepare projections with or without Illinois Route 53 extension depending on ISTHA decision on new roadway limits.
   e. Obtain concurrence from LCDOT and CMAP on projected 2040 ADT.
   f. Determine projected peak hour traffic at the intersections
      i. Volo Village Road at Illinois Route 120 intersection
      ii. Volo Village Road at U.S. Route 12 intersection
      iii. Ellis Drive at Illinois Route 120 intersection
      iv. Gilmer Road at Illinois Route 120 intersection
      v. Illinois Route 120 at U.S. Route 12 intersection

vi. Ellis Drive at Gilmer Road intersection
vii. Extended Ellis Drive at U.S. Route 12 intersection

g. Conduct traffic signal warrant analysis.
   i. Volo Village Road at Illinois Route 120 intersection
   ii. Volo Village Road at U.S. Route 12 intersection
   iii. Ellis Drive at Illinois Route 120 intersection
   iv. Illinois Route 120 at U.S. Route 12 intersection
   v. Ellis Drive at Gilmer Road intersection
   vi. Extended Ellis Drive at U.S. Route 12 intersection
h. Conduct traffic signal capacity analysis for the intersections.
   i. Volo Village Road at Illinois Route 120 intersection
   ii. Volo Village Road at U.S. Route 12 intersection
   iii. Ellis Drive at Illinois Route 120 intersection
   iv. Illinois Route 120 at U.S. Route 12 intersection
   v. Ellis Drive at Gilmer Road intersection
   vi. Extended Ellis Drive at U.S. Route 12 intersection
i. Conduct roundabout capacity analysis for the intersections.
   i. Ellis Drive at Gilmer Road intersection
j. Prepare Intersection Design Study for the intersections.
   i. Volo Village Road at Illinois Route 120 intersection
   ii. Volo Village Road at U.S. Route 12 intersection
   iii. Ellis Drive at Illinois Route 120 intersection
   iv. Illinois Route 120 at U.S. Route 12 intersection
   v. Ellis Drive at Gilmer Road intersection
   vi. Extended Ellis Drive at U.S. Route 12 intersection
k. Prepare roundabout Intersection Design Study for the intersection.
   i. Ellis Drive at Gilmer Road intersection
l. Complete area VISSIM traffic simulation for use at the public meeting.
   i. Ellis Drive at Gilmer Road signalized intersection
   ii. Ellis Drive at Gilmer Road roundabout intersection
   iii. Prepare simulation videos for use at the public meeting.
m. Obtain crash data from LCDOT for all roadways within the project study.
n. Conduct crash analysis for the most recent five-year available data.
   i. Volo Village Road at Illinois Route 120 intersection
   ii. Volo Village Road at U.S. Route 12 intersection
   iii. Ellis Drive at Illinois Route 120 intersection
   iv. Gilmer Road at Illinois Route 120 intersection
   v. Illinois Route 120 at U.S. Route 12 intersection
   vi. Ellis Drive at Gilmer Road intersection
   vii. Illinois Route 120 from Volo Village Road to U.S. Route 12
   viii. Illinois Route 120 from U.S. Route 12 to Gilmer Road
   ix. Illinois Route 120 from Gilmer Road to Ellis Drive
   x. Ellis Drive from Illinois Route 120 to Gilmer Drive
   xi. Gilmer Road from Illinois Route 120 to Ellis Drive
   xii. U.S. Route 12 south of Illinois Route 120
   xiii. U.S. Route 12 from Illinois Route 120 to Volo Village Road
   xiv. Volo Village Road from Illinois Route 120 to U.S. Route 12
   xv. Volo Village Road from U.S. Route 12 to Ellis Drive

o. Preliminary Maintenance of Traffic
    i. Analyze the alternatives of constructing under traffic.
    ii. Determine construction time constraints.
    iii. Prepare Traffic Management Plan.

6. Geotechnical Studies
    a. Meet and coordinate with LCDOT to discuss boring locations (1 meeting anticipated).
    b. Conduct pavement and soils investigations to identify pavement condition, soils stability, and subgrade conditions.
        i. 14 pavement cores will be conducted.
        ii. 91 soil borings will be conducted at 300-foot spacing.
        iii. If required, structure borings for retaining walls will be included in the Phase 2 scope of work.
    c. Provide a recommendation on the Ellis Drive pavement.
    d. Prepare a soils investigation report with soil borings and logs with recommendations meeting IDOT and LCDOT guidelines.
    e. Meet and coordinate with LCDOT to discuss soils report recommendations (1 meeting anticipated).
    f. Prepare a preliminary pavement design based on soils report recommendations and LCDOT standards to determine an estimated thickness of the proposed pavement.

7. Design Studies
    a. Obtain existing roadway plans, existing plat of survey, and right-of-way data from IDOT, LCDOT, and Volo.
    b. Determine existing Gilmer Road centerline location based on LCDOT data.
    c. Determine existing U.S. Route 12, Illinois Route 120, Volo Village Road, and Fisher Road centerline location based on IDOT data.
    d. Determine existing Ellis Drive centerline location based on Volo data.
    e. Determine existing right-of-way based on Lake County tax parcel maps.
    f. Review existing roadway geometrics to determine needed improvements.
    g. Based on LCDOT and IDOT standards, determine design criteria for the typical section and horizontal and vertical geometrics.
    h. Prepare proposed typical section and submit to LCDOT for approval.
    i. Geometrics at roundabout intersection for Gilmer Road at Ellis Drive
        i. Prepare proposed concept roundabout geometrics.
        ii. Refine proposed roundabout geometrics.
        iii. Determine proposed roadway alignments on Gilmer Road and Ellis Drive to meet preferred geometrics and proposed geometrics for roundabout intersection.
        iv. Prepare a preliminary proposed roadway profile for roundabout intersection to meet design speed and drainage requirements.
        v. Cross Section Analysis for roundabout intersection.
            1. Prepare proposed cross sections for preliminary alignment and profile for roundabout intersection.
            2. Identify right-of-way needs and alternatives for roundabout intersection to minimize impacts, including sidewalk access.
    j. Geometrics at signalized intersection for Gilmer Road at Ellis Drive
        i. Develop proposed concept geometrics for signalized intersection.
        ii. Prepare proposed geometrics for signalized intersection.
        iii. Determine proposed roadway alignments on Gilmer Road and Ellis Drive to meet preferred geometrics and proposed geometrics for signalized intersection.

iv. Prepare a preliminary proposed roadway profile for signalized intersection to meet design speed and drainage requirements.
v. Cross Section Analysis for signalized intersection.
1. Prepare proposed cross sections for preliminary alignment and profile for signalized intersection.
2. Identify right-of-way needs and alternatives for signalized intersection to minimize impacts, including sidewalk access.

k. Determine preferred intersection alternative after coordination with the County, Village, and IDOT.
l. Determine roadway travel needs along Illinois Route 120, U.S. Route 12, and extended Ellis Drive meeting IDOT and LCDOT requirements and needs.
m. Preliminary roadway studies
i. Ellis Drive from Illinois Route 120 to U.S. Route 12
1. Determine preferred roadway typical section
2. Determine preliminary roadway alignment and geometrics
3. Finalize preferred roadway geometrics
4. Determine right-of-way needs
ii. Ellis Drive from U.S. Route 12 to Gilmer Road
1. Determine preferred roadway typical section
2. Determine preliminary roadway alignment and geometrics
3. Finalize preferred roadway geometrics
4. Determine right-of-way needs
iii. Illinois Route 120 from Fisher Road to Illinois Route 60
1. Determine preferred roadway typical section
2. Determine preliminary roadway alignment and geometrics
3. Finalize preferred roadway geometrics
4. Determine right-of-way needs
iv. U.S. Route 12 from south of extended Ellis Drive to north of Volo Village Road
1. Determine preferred roadway typical section
2. Determine preliminary roadway alignment and geometrics
3. Finalize preferred roadway geometrics
4. Determine right-of-way needs

n. Determine complete street and non-motorized travel needs along Illinois Route 120, U.S. Route 12, Gilmer Road, Ellis Drive, extended Ellis Drive, and Volo Village Road meeting IDOT and LCDOT policy.
o. Bike Path studies Fisher Road at Darrell Road intersection to Gilmer Road at Ellis Drive intersection are not included in the scope
p. Preliminary Aesthetics.
i. Identify preliminary roadway aesthetic concepts.
ii. Identify preliminary landscaping concepts.

8. Public Involvement
a. Detail and coordinate the following Public Involvement Strategy:
i. Public Information Meeting not anticipated
ii. Project Newsletters not anticipated
iii. Community Advisory Group (CAG) Meetings not anticipated
iv. Public Meeting
v. Public Hearing
vi. Project website is included in the scope of work.
b. Public Meeting Open House

i. Conduct one Dry-Run Public Meeting with LCDOT.
ii. Attend one Public Meeting to present intersection alternatives.
iii. Coordinate site use near project location.
iv. Prepare and publish public meeting notice.
v. Prepare and distribute public meeting invitation.
vi. Prepare public meeting brochure, sign-in sheets, and comment forms.
vii. Prepare public meeting exhibits.
viii. Prepare educational materials and video on alternatives.
ix. Collect, compile, and respond to public meeting comments.

c. Public Hearing Open House
   i. Conduct one Dry-Run Public Hearing with LCDOT.
   ii. Attend one Public Hearing to present preferred improvement.
   iii. Coordinate site use near project location.
   iv. Prepare and publish public meeting notice.
   v. Prepare and distribute public meeting invitation.
   vi. Prepare public meeting brochure, sign-in sheets, and comment forms.
   vii. Prepare public meeting exhibits.
   viii. Prepare educational materials and video on alternatives.
   ix. Collect, compile, and respond to public meeting comments.
d. Additional individual property / business owner meetings may be included in Phase 2 scope of work.

9. Project Report
   a. Prepare Preferred Improvement Plan.
      i. Identify potential utility conflicts.
   b. Prepare preliminary typical sections.
   c. Prepare preliminary cost estimate.
   d. Prepare and submit Draft Project Development Report in the format of a Categorical Exclusion 2 (BLR 22110) summarizing the preliminary engineering efforts and decisions.
   e. Based on comments from IDOT and LCDOT, prepare and submit Final Project Development Report for Design Approval.

10. Project Administration
   a. Provide internal project management and staffing
   b. Prepare monthly invoices for anticipated 36 month schedule
   c. Maintain project schedule in Microsoft Project

EXHIBIT C-1

SUBCONSULTANT SERVICES
Jorgensen & Associates

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

February 27, 2012

Mr. Jeffrey R. Hall, P.E.
TranSystems Corporation
1475 East Woodfield Road
Suite 600
Schaumburg, Illinois 60173-5440

Re: Gilmer Road at Illinois Route 120 Survey Proposal

Dear Mr. Hall:

Enclosed, please find our proposal to prepare a topographic survey for the referenced project. Our proposal is based on the items contained in your email of February 20th and our subsequent telephone conversations.

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

Respectfully submitted,
Jorgensen & Associates, Inc.

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

CHJ/pt

Enclosures

E:\TranSystem\Gilmer Rd.\LTR

Route: Gilmer Road
Section: At Illinois Route 120
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: March 19, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	2110	$41,077.00	$53,560.30	$1,718.75	$96,356.05	$13,948.40	N/A	$110,304.45	60.11%
2) Office - Compile Field Data	368	$11,764.50	$15,339.73	$312.00	$27,416.23	$3,968.70	N/A	$31,384.93	17.10%
3) Office - Create Existing Topography Base Sheets	411	$11,529.00	$15,032.66	$0.00	$26,561.66	$3,844.92	N/A	$30,406.58	16.57%
4) Office - Create T.I.N. & Contours	86	$2,554.00	$3,330.16	$0.00	$5,884.16	$851.76	N/A	$6,735.92	3.67%
5) Coordination Meetings	36	$1,512.00	$1,971.50	$594.00	$4,077.50	$590.38	N/A	$4,667.88	2.54%
TOTALS	3011	$68,436.50	$89,234.35	$2,624.75	$160,295.60	$23,204.16	$0.00	$183,499.76	100.00%

Route: Gilmer Road
Section: At Illinois Route 120
County: Lake
Job No.:

Exhibit "A"

Hourly Rate Range - Consultant's Regular Staff

Classification	From	To
Principal, Manager, P.L.S.	40.00	42.00
Supervisor, Project Surveyor	38.00	40.00
Cadd Supervisor, Survey Party Chief, S.I.T., Survey Party Chief	21.50	27.50
Instrument Operator, Cadd Operator, assignable Clerical and Secretarial Labor	14.00	19.00

Route: Gilmer Road
Section: At Illinois Route 120
County: Lake
Job No.:

Exhibit "B"

Payroll Burden & Fringe Costs

	% of Direct Productive Payroll
Federal Insurance Contributions Act	11.27%
State Unemployment Compensation	0.89%
Federal Unemployment Compensation	0.20%
Workmen's Compensation Insurance	1.59%
Paid Holidays, Vacation, Sick Leave, Personal Leave	10.85%
Bonus	4.55%
Pension	0.67%
Group Insurance	25.81%
Total Payroll Burden & Fringe Costs	55.83%

Route: Gilmer Road
Section: At Illinois Route 120
County: Lake
Job No.:

Exhibit "C"

Overhead and Indirect Costs

	% of Direct Productive Payroll
Business Insurance	4.54%
Depreciation	12.69%
Indirect wages and salaries	37.59%
Reproductive and printing costs	0.06%
Office Supplies	2.69%
Computer Costs	0.16%
Professional Fees	1.33%
Telephone	1.63%
Fees, license & dues	1.08%
Repairs and maintenance	0.44%
Business space rent	4.11%
Facilities - capital	1.05%
Recruiting	0.01%
Survey Supplies	3.14%
Automobile/travel expense	1.96%
Equipment Rental	0.77%
Miscellaneous Expense	0.62%
State Income Tax	0.45%
Postage	0.24%
Total Overhead	74.56%

Route: Volo Village Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Survey Party Chief

E. Instrument Operator

F. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. ……. $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Survey Party Chief …….…….... $ 21.50
E. Instrument Operator …….. $ 17.50
F. Cadd Supervisor …….. $ 26.50

Route: Volo Village Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	13 hours	@	$39.00/hour	=	$ 507.00
Survey Party Chief, S.I.T.	44 hours	@	$21.50/hour	=	$ 946.00
Survey Party Chief	2 hours	@	$21.50/hour	=	$ 43.00
Instrument Operator	44 hours	@	$17.50/hour	=	$ 770.00
Instrument Operator	2 hours	@	$17.50/hour	=	$ 35.00
Cadd Supervisor	30 hours	@	$26.50/hour	=	$ 795.00
	137 hours				$ 3,180.00

Average Hourly Rate = $\frac{\$3,180.00}{137}$ = $23.21/hour

Route: Volo Village Road
Section: At Illinois Route 120 Intersection
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 22, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	92	$1,794.00	$2,339.20	$82.50	$4,215.70	$610.26	N/A	$4,825.96	56.37%
2) Office - Compile Field Data	21	$681.50	$888.61	$36.50	$1,606.61	$232.57	N/A	$1,839.18	21.48%
3) Office - Create Existing Topography Base Sheets	18	$502.00	$654.56	$0.00	$1,156.56	$167.42	N/A	$1,323.97	15.47%
4) Office - Create T.I.N. & Contours	4	$118.50	$154.51	$0.00	$273.01	$39.52	N/A	$312.53	3.65%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	3.03%
TOTALS	137	$3,180.00	$4,146.40	$152.00	$7,478.40	$1,082.57	$0.00	$8,560.97	100.00%

Route: Volo Village Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Volo Village Road	± 1,200' =	± 0.227 mile
Total Length	± 1,200' =	± 0.227 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      4 hours x 2 men = 8 MH

   b. Locate existing R.O.W. line occupation
      12 hours x 2 men = 24 MH

   c. Monument center line alignment at 100 foot intervals
      2 hours x 4 men = 8 MH

   d. Reference center line alignment
      2 hours x 2 men = 4 MH

   e. Locate existing topography
      24 hours x 2 men = 48 MH

   Sub-total Item #1 92 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      2 hours x 1 man = 2 MH

   b. Research records
      3 hours x 1 man = 3 MH

   c. Compute existing R.O.W. lines
      10 hours x 1 man = 10 MH

   d. Edit & compile topographic survey
      6 hours x 1 man = 6 MH

   Sub-total Item #2 21 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      16 hours x 1 man = 16 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

Sub-total Item #3 18 MH

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

   a. Compute contours
      3 hours x 1 man = 3 MH

   b. Check contours
      1 hour x 1 man = 1 MH

Sub-total Item #4 4 MH

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

Total All Items 137 MH

Route: Volo Village Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	44
	Survey Party Chief	2
	Instrument Operator	44
	Instrument Operator	2
2. Office - Compile Field Data	Supervisor, P.L.S.	10
	Cadd Supervisor	11
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	2
	Cadd Supervisor	16
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	3
5. Coordination Meetings	Principal/Officer	2

Route: Volo Village Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 6 ea.
    ± 25 miles/trip x 6 trips = ± 150 miles
    ± 150 miles @ $0.55/mile = $ 82.50

2. Office - Compile Field Data

    a. Trips to County Recorder - 1 ea.
    ± 30 miles/trip x 1 trip = ± 30 miles
    ± 30 miles @ $0.55/mile = $ 16.50

    b. Miscellaneous Records = $ 20.00

    Sub-total Item #2 $ 36.50

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

    Total All Items $ 152.00

Route: Volo Village Road
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Survey Party Chief

E. Instrument Operator

F. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. ……. $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Survey Party Chief …….…….... $ 21.50
E. Instrument Operator …….. $ 17.50
F. Cadd Supervisor …….. $ 26.50

Route: Volo Village Road
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	22 hours	@	$39.00/hour	=	$ 858.00
Survey Party Chief, S.I.T.	94 hours	@	$21.50/hour	=	$ 2,021.00
Survey Party Chief	8 hours	@	$21.50/hour	=	$ 172.00
Instrument Operator	94 hours	@	$17.50/hour	=	$ 1,645.00
Instrument Operator	8 hours	@	$17.50/hour	=	$ 140.00
Cadd Supervisor	62 hours	@	$26.50/hour	=	$ 1,643.00
	290 hours				$ 6,563.00

Average Hourly Rate = $\frac{\$6,563.00}{290}$ = $22.63/hour

Route: Volo Village Road
Section: At U.S. Route 12 Intersection
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 22, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	204	$3,978.00	$5,186.91	$165.00	$9,329.91	$1,350.59	N/A	$10,680.50	60.72%
2) Office - Compile Field Data	37	$1,180.50	$1,539.25	$46.50	$2,766.25	$400.44	N/A	$3,166.69	18.00%
3) Office - Create Existing Topography Base Sheets	41	$1,149.00	$1,498.18	$0.00	$2,647.18	$383.19	N/A	$3,030.37	17.23%
4) Office - Create T.I.N. & Contours	6	$171.50	$223.62	$0.00	$395.12	$57.20	N/A	$452.31	2.57%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	1.47%
TOTALS	290	$6,563.00	$8,557.50	$244.50	$15,365.00	$2,224.21	$0.00	$17,589.21	100.00%

Route: Volo Village Road
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

U.S. Route 12	± 1,200' = ± 0.227 mile
Volo Village Road	± 1,200' = ± 0.227 mile
Total Length	± 2,400' = ± 0.454 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      7 hours x 2 men = 14 MH

   b. Locate existing R.O.W. line occupation
      20 hours x 2 men = 40 MH

   c. Monument center line alignment at 100 foot intervals
      8 hours x 4 men = 32 MH

   d. Reference center line alignment
      4 hours x 2 men = 8 MH

   e. Locate existing topography
      55 hours x 2 men = 110 MH

   Sub-total Item #1 204 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      3 hours x 1 man = 3 MH

   b. Research records
      4 hours x 1 man = 4 MH

   c. Compute existing R.O.W. lines
      16 hours x 1 man = 16 MH

   d. Edit & compile topographic survey
      14 hours x 1 man = 14 MH

   Sub-total Item #2 37 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      36 hours x 1 man = 36 MH

   b. Check topographic survey
      5 hours x 1 man = 5 MH

Sub-total Item #3 41 MH

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

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

   b. Check contours
      1 hour x 1 man = 1 MH

Sub-total Item #4 6 MH

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

Total All Items 290 MH

Route: Volo Village Road
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	94
	Survey Party Chief	8
	Instrument Operator	94
	Instrument Operator	8
2. Office - Compile Field Data	Supervisor, P.L.S.	16
	Cadd Supervisor	21
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	5
	Cadd Supervisor	36
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	5
5. Coordination Meetings	Principal/Officer	2

Route: Volo Village Road
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 12 ea.
    ± 25 miles/trip x 12 trips = ± 300 miles
    ± 300 miles @ $0.55/mile = $ 165.00

2. Office - Compile Field Data

    a. Trips to County Recorder - 1 ea.
    ± 30 miles/trip x 1 trip = ± 30 miles
    ± 30 miles @ $0.55/mile = $ 16.50

    b. Miscellaneous Records = $ 30.00

    Sub-total Item #2 $ 46.50

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

    Total All Items $ 244.50

Route: Ellis Drive
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Survey Party Chief

E. Instrument Operator

F. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. ……. $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Survey Party Chief …….…….... $ 21.50
E. Instrument Operator …….. $ 17.50
F. Cadd Supervisor …….. $ 26.50

Route: Ellis Drive
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	15 hours	@	$39.00/hour	=	$ 585.00
Survey Party Chief, S.I.T.	57 hours	@	$21.50/hour	=	$ 1,225.50
Survey Party Chief	4 hours	@	$21.50/hour	=	$ 86.00
Instrument Operator	57 hours	@	$17.50/hour	=	$ 997.50
Instrument Operator	4 hours	@	$17.50/hour	=	$ 70.00
Cadd Supervisor	47 hours	@	$26.50/hour	=	$ 1,245.50
	186 hours				$ 4,293.50

Average Hourly Rate = $\frac{\$4,293.50}{186}$ = $23.08/hour

Route: Ellis Drive
Section: At Illinois Route 120 Intersection
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 22, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	122	$2,379.00	$3,101.98	$96.25	$5,577.23	$807.35	N/A	$6,384.58	55.45%
2) Office - Compile Field Data	24	$761.00	$992.27	$36.50	$1,789.77	$259.09	N/A	$2,048.85	17.80%
3) Office - Create Existing Topography Base Sheets	34	$951.00	$1,240.01	$0.00	$2,191.01	$317.16	N/A	$2,508.17	21.78%
4) Office - Create T.I.N. & Contours	4	$118.50	$154.51	$0.00	$273.01	$39.52	N/A	$312.53	2.71%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	2.25%
TOTALS	186	$4,293.50	$5,598.29	$165.75	$10,057.54	$1,455.92	$0.00	$11,513.46	100.00%

Route: Ellis Drive
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Illinois Route 120	± 1,250' =	± 0.237 mile
Ellis Drive	± 600' =	± 0.113 mile
Total Length	± 1,850' =	± 0.350 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      4 hours x 2 men = 8 MH

   b. Locate existing R.O.W. line occupation
      8 hours x 2 men = 16 MH

   c. Monument center line alignment at 100 foot intervals
      4 hours x 4 men = 16 MH

   d. Reference center line alignment
      4 hours x 2 men = 8 MH

   e. Locate existing topography
      37 hours x 2 men = 74 MH

   Sub-total Item #1 122 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      2 hours x 1 man = 2 MH

   b. Research records
      3 hours x 1 man = 3 MH

   c. Compute existing R.O.W. lines
      10 hours x 1 man = 10 MH

   d. Edit & compile topographic survey
      9 hours x 1 man = 9 MH

   Sub-total Item #2 24 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      30 hours x 1 man = 30 MH

   b. Check topographic survey
      4 hours x 1 man = 4 MH

Sub-total Item #3 34 MH

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

   a. Compute contours
      3 hours x 1 man = 3 MH

   b. Check contours
      1 hour x 1 man = 1 MH

Sub-total Item #4 4 MH

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

Total All Items 186 MH

Route: Ellis Drive
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	57
	Survey Party Chief	4
	Instrument Operator	57
	Instrument Operator	4
2. Office - Compile Field Data	Supervisor, P.L.S.	10
	Cadd Supervisor	14
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	4
	Cadd Supervisor	30
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	3
5. Coordination Meetings	Principal/Officer	2

Route: Ellis Drive
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 7 ea.
    ± 25 miles/trip x 7 trips = ± 175 miles
    ± 175 miles @ $0.55/mile = $ 96.25

2. Office - Compile Field Data

    a. Trips to County Recorder - 1 ea.
    ± 30 miles/trip x 1 trip = ± 30 miles
    ± 30 miles @ $0.55/mile = $ 16.50

    b. Miscellaneous Records = $ 20.00

    Sub-total Item #2 $ 36.50

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

    Total All Items $ 165.75

Route: Gilmer Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Survey Party Chief

E. Instrument Operator

F. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. ……. $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Survey Party Chief …….…….... $ 21.50
E. Instrument Operator …….. $ 17.50
F. Cadd Supervisor …….. $ 26.50

Route: Gilmer Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	14 hours	@	$39.00/hour	=	$ 546.00
Survey Party Chief, S.I.T.	55 hours	@	$21.50/hour	=	$ 1,182.50
Survey Party Chief	4 hours	@	$21.50/hour	=	$ 86.00
Instrument Operator	55 hours	@	$17.50/hour	=	$ 962.50
Instrument Operator	4 hours	@	$17.50/hour	=	$ 70.00
Cadd Supervisor	43 hours	@	$26.50/hour	=	$ 1,139.50
	177 hours				$ 4,070.50

Average Hourly Rate = $\frac{\$4,070.50}{177}$ = $23.00/hour

Route: Gilmer Road
Section: At Illinois Route 120 Intersection
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 22, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	118	$2,301.00	$3,000.27	$96.25	$5,397.52	$781.34	N/A	$6,178.86	56.56%
2) Office - Compile Field Data	24	$761.00	$992.27	$36.50	$1,789.77	$259.09	N/A	$2,048.85	18.75%
3) Office - Create Existing Topography Base Sheets	29	$806.00	$1,050.94	$0.00	$1,856.94	$268.80	N/A	$2,125.74	19.46%
4) Office - Create T.I.N. & Contours	4	$118.50	$154.51	$0.00	$273.01	$39.52	N/A	$312.53	2.86%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	2.37%
TOTALS	177	$4,070.50	$5,307.52	$165.75	$9,543.77	$1,381.55	$0.00	$10,925.32	100.00%

Route: Gilmer Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Illinois Route 120	± 700' =	± 0.132 mile
Gilmer Road	± 600' =	± 0.114 mile
Total Length	± 1,300' =	± 0.246 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      5 hours x 2 men = 16 MH

   b. Locate existing R.O.W. line occupation
      12 hours x 2 men = 24 MH

   c. Monument center line alignment at 100 foot intervals
      4 hours x 4 men = 16 MH

   d. Reference center line alignment
      4 hours x 2 men = 8 MH

   e. Locate existing topography
      30 hours x 2 men = 60 MH

   Sub-total Item #1 118 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      3 hours x 1 man = 3 MH

   b. Research records
      3 hours x 1 man = 3 MH

   c. Compute existing R.O.W. lines
      10 hours x 1 man = 10 MH

   d. Edit & compile topographic survey
      8 hours x 1 man = 8 MH

   Sub-total Item #2 24 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      26 hours x 1 man = 26 MH

   b. Check topographic survey
      3 hours x 1 man = 3 MH

   Sub-total Item #3 29 MH

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

   a. Compute contours
      3 hours x 1 man = 3 MH

   b. Check contours
      1 hour x 1 man = 1 MH

   Sub-total Item #4 4 MH

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

   Total All Items 177 MH

Route: Gilmer Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	55
	Survey Party Chief	4
	Instrument Operator	55
	Instrument Operator	4
2. Office - Compile Field Data	Supervisor, P.L.S.	10
	Cadd Supervisor	14
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	3
	Cadd Supervisor	26
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	3
5. Coordination Meetings	Principal/Officer	2

Route: Gilmer Road
Section: At Illinois Route 120 Intersection
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 7 ea.
    ± 25 miles/trip x 7 trips = ± 175 miles
    ± 175 miles @ $0.55/mile = $ 96.25

2. Office - Compile Field Data

    a. Trips to County Recorder - 1 ea.
    ± 30 miles/trip x 1 trip = ± 30 miles
    ± 30 miles @ $0.55/mile = $ 16.50

    b. Miscellaneous Records = $ 20.00

    Sub-total Item #2 $ 36.50

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

    Total All Items $ 165.75

Route: Illinois Route 120
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Survey Party Chief

E. Instrument Operator

F. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. ……. $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Survey Party Chief …….…….... $ 21.50
E. Instrument Operator …….. $ 17.50
F. Cadd Supervisor …….. $ 26.50

Route: Illinois Route 120
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	19 hours	@	$39.00/hour	=	$ 741.00
Survey Party Chief, S.I.T.	79 hours	@	$21.50/hour	=	$ 1,698.50
Survey Party Chief	6 hours	@	$21.50/hour	=	$ 129.00
Instrument Operator	79 hours	@	$17.50/hour	=	$ 1,382.50
Instrument Operator	6 hours	@	$17.50/hour	=	$ 105.00
Cadd Supervisor	55 hours	@	$26.50/hour	=	$ 1,457.50
	246 hours				$ 5,597.50

Average Hourly Rate = $\frac{\$5,597.50}{246}$ = $22.75/hour

Route: Illinois Route 120
Section: At U.S. Route 12 Intersection
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 23, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	170	$3,315.00	$4,322.43	$137.50	$7,774.93	$1,125.49	N/A	$8,900.42	59.29%
2) Office - Compile Field Data	33	$1,049.50	$1,368.44	$46.50	$2,464.44	$356.75	N/A	$2,821.19	18.79%
3) Office - Create Existing Topography Base Sheets	36	$1,004.00	$1,309.12	$0.00	$2,313.12	$334.83	N/A	$2,647.95	17.64%
4) Office - Create T.I.N. & Contours	5	$145.00	$189.07	$0.00	$334.07	$48.36	N/A	$382.42	2.55%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	1.73%
TOTALS	246	$5,597.50	$7,298.58	$217.00	$13,113.08	$1,898.23	$0.00	$15,011.31	100.00%

Route: Illinois Route 120
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

U.S. Route 12	± 780' =	± 0.148 mile
Illinois Route 120	± 1,200' =	± 0.227 mile
Total Length	± 1,980' =	± 0.375 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      6 hours x 2 men = 12 MH

   b. Locate existing R.O.W. line occupation
      16 hours x 2 men = 32 MH

   c. Monument center line alignment at 100 foot intervals
      6 hours x 4 men = 24 MH

   d. Reference center line alignment
      3 hours x 2 men = 6 MH

   e. Locate existing topography
      48 hours x 2 men = 96 MH

   Sub-total Item #1 170 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      3 hours x 1 man = 3 MH

   b. Research records
      4 hours x 1 man = 4 MH

   c. Compute existing R.O.W. lines
      14 hours x 1 man = 14 MH

   d. Edit & compile topographic survey
      12 hours x 1 man = 12 MH

   Sub-total Item #2 33 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      32 hours x 1 man = 32 MH

   b. Check topographic survey
      4 hours x 1 man = 4 MH

Sub-total Item #3 36 MH

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

   a. Compute contours
      4 hours x 1 man = 4 MH

   b. Check contours
      1 hour x 1 man = 1 MH

Sub-total Item #4 5 MH

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

Total All Items 246 MH

Route: Illinois Route 120
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	79
	Survey Party Chief	6
	Instrument Operator	79
	Instrument Operator	6
2. Office - Compile Field Data	Supervisor, P.L.S.	14
	Cadd Supervisor	19
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	4
	Cadd Supervisor	32
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	4
5. Coordination Meetings	Principal/Officer	2

Route: Illinois Route 120
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item		
1. Field - Topographic Survey		
a. Trips to project site - 10 ea. ± 25 miles/trip x 10 trips = ± 250 miles ± 250 miles @ $0.55/mile =		$ 137.50
2. Office - Compile Field Data		
a. Trips to County Recorder - 1 ea. ± 30 miles/trip x 1 trip = ± 30 miles ± 30 miles @ $0.55/mile =		$ 16.50
b. Miscellaneous Records =		$ 30.00
	Sub-total Item #2	$ 46.50
5. Coordination Meetings		
a. Meetings at TranSystems' office - 1 ea. ± 60 miles/trip x 1 trip = ± 60 miles ± 60 miles @ $0.55/mile =		$ 33.00
	Total All Items	$ 217.00

Route: Ellis Drive
Section: At Gilmer Road Intersection
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Survey Party Chief

E. Instrument Operator

F. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. ……. $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Survey Party Chief …….…….... $ 21.50
E. Instrument Operator …….. $ 17.50
F. Cadd Supervisor …….. $ 26.50

Route: Ellis Drive
Section: At Gilmer Road Intersection
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	14 hours	@	$39.00/hour	=	$ 546.00
Survey Party Chief, S.I.T.	73 hours	@	$21.50/hour	=	$ 1,569.50
Survey Party Chief	5 hours	@	$21.50/hour	=	$ 107.50
Instrument Operator	73 hours	@	$17.50/hour	=	$ 1,277.50
Instrument Operator	5 hours	@	$17.50/hour	=	$ 87.50
Cadd Supervisor	52 hours	@	$26.50/hour	=	$ 1,378.00
	224 hours				$ 5,050.00

Average Hourly Rate = $\frac{\$5,050.00}{224}$ = $22.54/hour

Route: Ellis Drive
Section: At Gilmer Road Intersection
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 23, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	156	$3,042.00	$3,966.46	$123.75	$7,132.21	$1,032.45	N/A	$8,164.66	60.30%
2) Office - Compile Field Data	28	$867.00	$1,130.48	$36.50	$2,033.98	$294.44	N/A	$2,328.42	17.20%
3) Office - Create Existing Topography Base Sheets	33	$912.00	$1,189.16	$0.00	$2,101.16	$304.15	N/A	$2,405.31	17.76%
4) Office - Create T.I.N. & Contours	5	$145.00	$189.07	$0.00	$334.07	$48.36	N/A	$382.42	2.82%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	1.92%
TOTALS	224	$5,050.00	$6,584.70	$193.25	$11,827.95	$1,712.20	$0.00	$13,540.14	100.00%

Route: Ellis Drive
Section: At Gilmer Road Intersection
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Gilmer Road	± 1,200' =	± 0.227 mile
Ellis Drive	± 1,360' =	± 0.258 mile
Total Length	± 2,560' =	± 0.485 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      10 hours x 2 men = 20 MH

   b. Locate existing R.O.W. line occupation
      10 hours x 2 men = 20 MH

   c. Monument center line alignment at 100 foot intervals
      5 hours x 4 men = 20 MH

   d. Reference center line alignment
      3 hours x 2 men = 6 MH

   e. Locate existing topography
      45 hours x 2 men = 90 MH

   Sub-total Item #1 156 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      4 hours x 1 man = 4 MH

   b. Research records
      3 hours x 1 man = 3 MH

   c. Compute existing R.O.W. lines
      10 hours x 1 man = 10 MH

   d. Edit & compile topographic survey
      11 hours x 1 man = 11 MH

   Sub-total Item #2 28 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      30 hours x 1 man = 30 MH

   b. Check topographic survey
      3 hours x 1 man = 3 MH

Sub-total Item #3 33 MH

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

   a. Compute contours
      4 hours x 1 man = 4 MH

   b. Check contours
      1 hour x 1 man = 1 MH

Sub-total Item #4 5 MH

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

Total All Items 224 MH

Route: Ellis Drive
Section: At Gilmer Road Intersection
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	73
	Survey Party Chief	5
	Instrument Operator	73
	Instrument Operator	5
2. Office - Compile Field Data	Supervisor, P.L.S.	10
	Cadd Supervisor	18
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	3
	Cadd Supervisor	30
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	4
5. Coordination Meetings	Principal/Officer	2

Route: Ellis Drive
Section: At Gilmer Road Intersection
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 9 ea.
    ± 25 miles/trip x 9 trips = ± 225 miles
    ± 225 miles @ $0.55/mile = $ 123.75

2. Office - Compile Field Data

    a. Trips to County Recorder - 1 ea.
    ± 30 miles/trip x 1 trip = ± 30 miles
    ± 30 miles @ $0.55/mile = $ 16.50

    b. Miscellaneous Records = $ 20.00

    Sub-total Item #2 $ 36.50

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

    Total All Items $ 193.25

Route: Extended Ellis Drive
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. …… $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: Extended Ellis Drive
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	13 hours	@	$39.00/hour	=	$ 507.00
Survey Party Chief, S.I.T.	48 hours	@	$21.50/hour	=	$ 1,032.00
Instrument Operator	48 hours	@	$17.50/hour	=	$ 840.00
Cadd Supervisor	23 hours	@	$26.50/hour	=	$ 609.50
	134 hours				$ 3,072.50

$$\text{Average Hourly Rate} = \frac{\$3,072.50}{134} = \$22.93/\text{hour}$$

Route: Extended Ellis Drive
Section: At U.S. Route 12 Intersection
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 23, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	96	$1,872.00	$2,440.90	$82.50	$4,395.40	$636.27	N/A	$5,031.68	60.79%
2) Office - Compile Field Data	20	$655.00	$854.05	$36.50	$1,545.55	$223.74	N/A	$1,769.29	21.37%
3) Office - Create Existing Topography Base Sheets	12	$343.00	$447.24	$0.00	$790.24	$114.39	N/A	$904.63	10.93%
4) Office - Create T.I.N. & Contours	4	$118.50	$154.51	$0.00	$273.01	$39.52	N/A	$312.53	3.78%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	3.13%
TOTALS	134	$3,072.50	$4,006.23	$152.00	$7,230.73	$1,046.72	$0.00	$8,277.45	100.00%

Route: Extended Ellis Drive
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

U.S. Route 12	± 1,200' = ± 0.227 mile
Total Length	± 1,200' = ± 0.227 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      6 hours x 2 men = 12 MH

   b. Locate existing R.O.W. line occupation
      16 hours x 2 men = 32 MH

   c. Monument center line alignment at 100 foot intervals
      4 hours x 2 men = 8 MH

   d. Reference center line alignment
      2 hours x 2 men = 4 MH

   e. Locate existing topography
      20 hours x 2 men = 40 MH

   Sub-total Item #1 96 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      2 hours x 1 man = 2 MH

   b. Research records
      3 hours x 1 man = 3 MH

   c. Compute existing R.O.W. lines
      10 hours x 1 man = 10 MH

   d. Edit & compile topographic survey
      5 hours x 1 man = 5 MH

   Sub-total Item #2 20 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      10 hours x 1 man = 10 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

Sub-total Item #3 12 MH

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

   a. Compute contours
      3 hours x 1 man = 3 MH

   b. Check contours
      1 hour x 1 man = 1 MH

Sub-total Item #4 4 MH

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

Total All Items 134 MH

Route: Extended Ellis Drive
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography	Survey Party Chief, S.I.T.	48
Survey	Instrument Operator	48
2. Office - Compile	Supervisor, P.L.S.	10
Field Data	Cadd Supervisor	10
3. Office – Create	Supervisor, P.L.S.	2
Existing Topography	Cadd Supervisor	10
Base Sheets		
4. Office - Create	Supervisor, P.L.S.	1
T.I.N. and	Cadd Supervisor	3
Contours		
5. Coordination	Principal/Officer	2
Meetings		

Route: Extended Ellis Drive
Section: At U.S. Route 12 Intersection
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 6 ea.
    ± 25 miles/trip x 6 trips = ± 150 miles
    ± 150 miles @ $0.55/mile = $ 82.50

2. Office - Compile Field Data

    a. Trips to County Recorder - 1 ea.
    ± 30 miles/trip x 1 trip = ± 30 miles
    ± 30 miles @ $0.55/mile = $ 16.50

    b. Miscellaneous Records = $ 20.00

    Sub-total Item #2 $ 36.50

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

    Total All Items $ 152.00

Route: Extended Ellis Drive
Section: From Gilmer Road to U.S. Route 12
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. …… $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: Extended Ellis Drive
Section: From Gilmer Road to U.S. Route 12
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$	84.00
Supervisor, P.L.S.	7 hours	@	$39.00/hour	=	$	273.00
Survey Party Chief, S.I.T.	50 hours	@	$21.50/hour	=	$	1,075.00
Instrument Operator	50 hours	@	$17.50/hour	=	$	875.00
Instrument Operator	8 hours	@	$17.50/hour	=	$	140.00
Cadd Supervisor	32 hours	@	$26.50/hour	=	$	848.00
	149 hours				$	3,295.00

Average Hourly Rate = $\frac{\$3,295.00}{149}$ = $22.11/hour

Route: Extended Ellis Drive
Section: From Gilmer Road to U.S. Route 12
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 23, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	108	$2,090.00	$2,725.15	$82.50	$4,897.65	$708.98	N/A	$5,606.63	63.55%
2) Office - Compile Field Data	12	$368.00	$479.84	$0.00	$847.84	$122.73	N/A	$970.56	11.00%
3) Office - Create Existing Topography Base Sheets	22	$608.00	$792.77	$0.00	$1,400.77	$202.77	N/A	$1,603.54	18.18%
4) Office - Create T.I.N. & Contours	5	$145.00	$189.07	$0.00	$334.07	$48.36	N/A	$382.42	4.33%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	2.94%
TOTALS	149	$3,295.00	$4,296.35	$115.50	$7,706.85	$1,115.63	$0.00	$8,822.48	100.00%

Route: Extended Ellis Drive
Section: From Gilmer Road to U.S. Route 12
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Extended Ellis Drive	± 1,600' =	± 0.303 mile
Total Length	± 1,600' =	± 0.303 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      5 hours x 2 men = 10 MH

   b. Monument center line alignment at 100 foot intervals
      8 hours x 3 men = 24 MH

   c. Reference center line alignment
      4 hours x 2 men = 8 MH

   d. Locate existing topography
      21 hours x 2 men = 42 MH

   e. Locate existing topography at detention pond near Ellis Drive and Gilmer Road
      12 hours x 2 men = 24 MH

   Sub-total Item #1 108 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      3 hours x 1 man = 3 MH

   b. Compute proposed center line alignment
      1 hour x 1 man = 1 MH

   c. Edit & compile topographic survey
      8 hours x 1 man = 8 MH

   Sub-total Item #2 12 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      20 hours x 1 man = 20 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

   Sub-total Item #3 22 MH

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

   a. Compute contours
      4 hours x 1 man = 4 MH

   b. Check contours
      1 hour x 1 man = 1 MH

   Sub-total Item #4 5 MH

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

   Total All Items 149 MH

Route: Extended Ellis Drive
Section: From Gilmer Road to U.S. Route 12
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	50
	Instrument Operator	50
	Instrument Operator	8
2. Office - Compile Field Data	Supervisor, P.L.S.	4
	Cadd Supervisor	8
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	2
	Cadd Supervisor	20
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	4
5. Coordination Meetings	Principal/Officer	2

Route: Extended Ellis Drive
Section: From Gilmer Road to U.S. Route 12
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 6 ea.
    ± 25 miles/trip x 6 trips = ± 150 miles
    ± 150 miles @ $0.55/mile = $ 82.50

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

Total All Items $ 115.50

Route: Extended Ellis Drive
Section: From U.S Route 12 to Illinois Route 120
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. …… $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: Extended Ellis Drive
Section: From U.S. Route 12 to Illinois Route 12
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	20 hours	@	$39.00/hour	=	$ 780.00
Survey Party Chief, S.I.T.	159 hours	@	$21.50/hour	=	$ 3,418.50
Instrument Operator	159 hours	@	$17.50/hour	=	$ 2,782.50
Instrument Operator	24 hours	@	$17.50/hour	=	$ 420.00
Cadd Supervisor	76 hours	@	$26.50/hour	=	$ 2,014.00
	440 hours				$ 9,499.00

Average Hourly Rate = $\frac{\$9,499.00}{440}$ = $21.59/hour

Route: Extended Ellis Drive
Section: From U.S. 12 to Illinois 120
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 23, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	342	$6,621.00	$8,633.12	$275.00	$15,529.12	$2,247.98	N/A	$17,777.10	69.97%
2) Office - Compile Field Data	36	$1,041.50	$1,358.01	$0.00	$2,399.51	$347.34	N/A	$2,746.85	10.81%
3) Office - Create Existing Topography Base Sheets	42	$1,213.00	$1,581.63	$0.00	$2,794.63	$404.54	N/A	$3,199.17	12.59%
4) Office - Create T.I.N. & Contours	18	$539.50	$703.45	$0.00	$1,242.95	$179.92	N/A	$1,422.88	5.60%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	1.02%
TOTALS	440	$9,499.00	$12,385.75	$308.00	$22,192.75	$3,212.58	$0.00	$25,405.32	100.00%

Route: Extended Ellis Drive
Section: From U.S. Route 12 to Illinois Route 120
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Extended Ellis Drive	± 4,800' =	± 0.909 mile
Total Length	± 4,800' =	± 0.909 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      11 hours x 2 men = 22 MH

   b. Monument center line alignment at 100 foot intervals
      24 hours x 3 men = 72 MH

   c. Reference center line alignment
      8 hours x 2 men = 16 MH

   d. Locate existing topography
      80 hours x 2 men = 160 MH

   e. Locate existing topography at 3 potential detention ponds along Illinois Route 120
      36 hours x 2 men = 72 MH

   Sub-total Item #1 342 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      5 hours x 1 man = 5 MH

   b. Compute proposed center line alignment
      2 hours x 1 man = 2 MH

   c. Edit & compile topographic survey
      29 hours x 1 man = 29 MH

   Sub-total Item #2 36 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      34 hours x 1 man = 34 MH

   b. Check topographic survey
      8 hours x 1 man = 8 MH

   Sub-total Item #3 42 MH

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

   a. Compute contours
      13 hours x 1 man = 13 MH

   b. Check contours
      5 hours x 1 man = 5 MH

   Sub-total Item #4 18 MH

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

   Total All Items 440 MH

Route: Extended Ellis Drive
Section: From U.S. Route 12 to Illinois Route 120
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	159
	Instrument Operator	159
	Instrument Operator	24
2. Office - Compile Field Data	Supervisor, P.L.S.	7
	Cadd Supervisor	29
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	8
	Cadd Supervisor	34
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	5
	Cadd Supervisor	13
5. Coordination Meetings	Principal/Officer	2

Route: Extended Ellis Drive
Section: From U.S. Route 12 to Illinois Route 120
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item		
1. Field - Topographic Survey		
a. Trips to project site - 20 ea. ± 25 miles/trip x 20 trips = ± 500 miles ± 500 miles @ $0.55/mile =		$ 275.00
5. Coordination Meetings		
a. Meetings at TranSystems' office - 1 ea. ± 60 miles/trip x 1 trip = ± 60 miles ± 60 miles @ $0.55/mile =		$ 33.00
	Total All Items	$ 308.00

Route: Illinois Route 120
Section: From Fisher Road to West of Volo Village Road
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. …… $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: Illinois Route 120
Section: From Fisher Road to West of Volo Village Road
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	9 hours	@	$39.00/hour	=	$ 351.00
Survey Party Chief, S.I.T.	26 hours	@	$21.50/hour	=	$ 559.00
Instrument Operator	26 hours	@	$17.50/hour	=	$ 455.00
Instrument Operator	2 hours	@	$17.50/hour	=	$ 35.00
Cadd Supervisor	17 hours	@	$26.50/hour	=	$ 450.50
	82 hours				$ 1,934.50

Average Hourly Rate = $\frac{\$1,934.50}{82}$ = $23.59/hour

Route: Illinois Route 120
Section: Fisher Rd. to West of Volo Village Rd.
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 23, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	54	$1,049.00	$1,367.79	$41.25	$2,458.04	$355.82	N/A	$2,813.86	54.25%
2) Office - Compile Field Data	11	$366.50	$477.88	$0.00	$844.38	$122.23	N/A	$966.61	18.63%
3) Office - Create Existing Topography Base Sheets	12	$343.00	$447.24	$0.00	$790.24	$114.39	N/A	$904.63	17.44%
4) Office - Create T.I.N. & Contours	3	$92.00	$119.96	$0.00	$211.96	$30.68	N/A	$242.64	4.68%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	5.00%
TOTALS	82	$1,934.50	$2,522.39	$74.25	$4,531.14	$655.92	$0.00	$5,187.07	100.00%

Route: Illinois Route 120
Section: From Fisher Road to West of Volo Village Road
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Illinois Route 120	± 680'	=	± 0.129 mile
Total Length	± 680'	=	± 0.129 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      2 hours x 2 men = 4 MH

   b. Locate existing R.O.W. line occupation
      6 hours x 2 men = 12 MH

   c. Monument center line alignment at 100 foot intervals
      2 hours x 3 men = 6 MH

   d. Reference center line alignment
      2 hours x 2 men = 4 MH

   e. Locate existing topography
      14 hours x 2 men = 28 MH

   Sub-total Item #1 54 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      1 hour x 1 man = 1 MH

   b. Compute existing R.O.W. lines
      6 hours x 1 man = 6 MH

   c. Edit & compile topographic survey
      4 hours x 1 man = 4 MH

   Sub-total Item #2 11 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      10 hours x 1 man = 10 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

   Sub-total Item #3 12 MH

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

   a. Compute contours
      2 hours x 1 man = 2 MH

   b. Check contours
      1 hour x 1 man = 1 MH

   Sub-total Item #4 3 MH

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

   Total All Items 82 MH

Route: Illinois Route 120
Section: From Fisher Road to West of Volo Village Road
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	26
	Instrument Operator	26
	Instrument Operator	2
2. Office - Compile Field Data	Supervisor, P.L.S.	6
	Cadd Supervisor	5
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	2
	Cadd Supervisor	10
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	2
5. Coordination Meetings	Principal/Officer	2

Route: Illinois Route 120
Section: From Fisher Road to West of Volo Village Road
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 3 ea.
    ± 25 miles/trip x 3 trips = ± 75 miles
    ± 75 miles @ $0.55/mile = $ 41.25

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

Total All Items $ 74.25

Route: Illinois Route 120
Section: From East of Volo Village Road to West of U.S. Route 12
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. …… $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: Illinois Route 120
Section: From East of Volo Village Road to West of U.S. Route 12
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	11 hours	@	$39.00/hour	=	$ 429.00
Survey Party Chief, S.I.T.	50 hours	@	$21.50/hour	=	$ 1,075.00
Instrument Operator	50 hours	@	$17.50/hour	=	$ 875.00
Cadd Supervisor	27 hours	@	$26.50/hour	=	$ 715.50
	140 hours				$ 3,178.50

Average Hourly Rate = $\frac{\$3,178.50}{140}$ = $22.70/hour

Route: Illinois Route 120
Section: East of Volo Village Rd. to West of U.S. 12
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 23, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	100	$1,950.00	$2,542.61	$82.50	$4,575.11	$662.29	N/A	$5,237.39	61.51%
2) Office - Compile Field Data	16	$524.00	$683.24	$0.00	$1,207.24	$174.75	N/A	$1,382.00	16.23%
3) Office - Create Existing Topography Base Sheets	18	$502.00	$654.56	$0.00	$1,156.56	$167.42	N/A	$1,323.97	15.55%
4) Office - Create T.I.N. & Contours	4	$118.50	$154.51	$0.00	$273.01	$39.52	N/A	$312.53	3.67%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	3.05%
TOTALS	140	$3,178.50	$4,144.45	$115.50	$7,438.45	$1,076.78	$0.00	$8,515.22	100.00%

Route: Illinois Route 120
Section: From East of Volo Village Road to West of U.S. Route 12
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Illinois Route 120	± 1,500' =	± 0.227 mile
Total Length	± 1,500' =	± 0.227 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      4 hours x 2 men = 8 MH

   b. Locate existing R.O.W. line occupation
      6 hours x 2 men = 12 MH

   c. Monument center line alignment at 100 foot intervals
      6 hours x 2 men = 12 MH

   d. Reference center line alignment
      4 hours x 2 men = 8 MH

   e. Locate existing topography
      30 hours x 2 men = 60 MH

   Sub-total Item #1 100 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      2 hours x 1 man = 2 MH

   b. Compute existing R.O.W. lines
      6 hours x 1 man = 6 MH

   c. Edit & compile topographic survey
      8 hours x 1 man = 8 MH

   Sub-total Item #2 16 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      16 hours x 1 man = 16 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

   Sub-total Item #3 18 MH

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

   a. Compute contours
      3 hours x 1 man = 3 MH

   b. Check contours
      1 hour x 1 man = 1 MH

   Sub-total Item #4 4 MH

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

   Total All Items 140 MH

Route: Illinois Route 120
Section: From East of Volo Village Road to West of U.S. Route 12
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	50
	Instrument Operator	50
2. Office - Compile Field Data	Supervisor, P.L.S.	8
	Cadd Supervisor	8
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	2
	Cadd Supervisor	16
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	3
5. Coordination Meetings	Principal/Officer	2

Route: Illinois Route 120
Section: From East of Volo Village Road to West of U.S. Route 12
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 6 ea.
    ± 25 miles/trip x 6 trips = ± 150 miles
    ± 150 miles @ $0.55/mile = $ 82.50

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

Total All Items $ 115.50

Route: Illinois Route 120
Section: From East of Ellis Drive to Illinois Route 60
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. …… $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: Illinois Route 120
Section: From East of Ellis Drive to Illinois Route 60
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	11 hours	@	$39.00/hour	=	$ 429.00
Survey Party Chief, S.I.T.	34 hours	@	$21.50/hour	=	$ 731.00
Instrument Operator	34 hours	@	$17.50/hour	=	$ 595.00
Cadd Supervisor	22 hours	@	$26.50/hour	=	$ 583.00
	103 hours				$ 2,422.00

Average Hourly Rate = $\frac{\$2,422.00}{103}$ = $23.51/hour

Route: Illinois Route 120
Section: East of Ellis Drive to Illinois 60
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 23, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	68	$1,326.00	$1,728.97	$55.00	$3,109.97	$450.20	N/A	$3,560.17	54.87%
2) Office - Compile Field Data	14	$471.00	$614.14	$0.00	$1,085.14	$157.08	N/A	$1,242.22	19.14%
3) Office - Create Existing Topography Base Sheets	16	$449.00	$585.45	$0.00	$1,034.45	$149.74	N/A	$1,184.19	18.25%
4) Office - Create T.I.N. & Contours	3	$92.00	$119.96	$0.00	$211.96	$30.68	N/A	$242.64	3.74%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	4.00%
TOTALS	103	$2,422.00	$3,158.05	$88.00	$5,668.05	$820.50	$0.00	$6,488.54	100.00%

Route: Illinois Route 120
Section: From East of Ellis Drive to Illinois Route 60
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Illinois Route 120	± 720' = ± 0.136 mile
Total Length	± 720' = ± 0.136 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      3 hours x 2 men = 6 MH

   b. Locate existing R.O.W. line occupation
      10 hours x 2 men = 20 MH

   c. Monument center line alignment at 100 foot intervals
      3 hours x 2 men = 6 MH

   d. Reference center line alignment
      2 hours x 2 men = 4 MH

   e. Locate existing topography
      16 hours x 2 men = 32 MH

   Sub-total Item #1 68 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      2 hours x 1 man = 2 MH

   b. Compute existing R.O.W. lines
      8 hours x 1 man = 8 MH

   c. Edit & compile topographic survey
      4 hours x 1 man = 4 MH

   Sub-total Item #2 14 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      14 hours x 1 man = 14 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

   Sub-total Item #3 16 MH

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

   a. Compute contours
      2 hours x 1 man = 2 MH

   b. Check contours
      1 hour x 1 man = 1 MH

   Sub-total Item #4 3 MH

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

   Total All Items 103 MH

Route: Illinois Route 120
Section: From East of Ellis Drive to Illinois Route 60
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography	Survey Party Chief, S.I.T.	34
Survey	Instrument Operator	34
2. Office - Compile	Supervisor, P.L.S.	8
Field Data	Cadd Supervisor	6
3. Office – Create	Supervisor, P.L.S.	2
Existing Topography	Cadd Supervisor	14
Base Sheets		
4. Office - Create	Supervisor, P.L.S.	1
T.I.N. and	Cadd Supervisor	2
Contours		
5. Coordination	Principal/Officer	2
Meetings		

Route: Illinois Route 120
Section: From East of Ellis Drive to Illinois Route 60
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 4 ea.
    ± 25 miles/trip x 4 trips = ± 100 miles
    ± 100 miles @ $0.55/mile = $ 55.00

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

Total All Items $ 88.00

Route: U.S. Route 12
Section: From North of Volo Village Road
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. …… $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: U.S. Route 12
Section: From North of Volo Village Road
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	15 hours	@	$39.00/hour	=	$ 585.00
Survey Party Chief, S.I.T.	47 hours	@	$21.50/hour	=	$ 1,010.50
Instrument Operator	47 hours	@	$17.50/hour	=	$ 822.50
Cadd Supervisor	30 hours	@	$26.50/hour	=	$ 795.00
	141 hours				$ 3,297.00

Average Hourly Rate = $\frac{\$3,297.00}{141}$ = $23.38/hour

Route: U.S. Route 12
Section: North of Volo Village Road
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 23, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	94	$1,833.00	$2,390.05	$82.50	$4,305.55	$623.27	N/A	$4,928.82	55.83%
2) Office - Compile Field Data	21	$706.50	$921.21	$0.00	$1,627.71	$235.62	N/A	$1,863.32	21.11%
3) Office - Create Existing Topography Base Sheets	20	$555.00	$723.66	$0.00	$1,278.66	$185.09	N/A	$1,463.76	16.58%
4) Office - Create T.I.N. & Contours	4	$118.50	$154.51	$0.00	$273.01	$39.52	N/A	$312.53	3.54%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	2.94%
TOTALS	141	$3,297.00	$4,298.96	$115.50	$7,711.46	$1,116.30	$0.00	$8,827.76	100.00%

Route: U.S. Route 12
Section: From North of Volo Village Road
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

U.S. Route 12	± 950'= ± 0.180 mile
Total Length	± 950'= ± 0.180 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      5 hours x 2 men = 10 MH

   b. Locate existing R.O.W. line occupation
      12 hours x 2 men = 24 MH

   c. Monument center line alignment at 100 foot intervals
      4 hours x 2 men = 8 MH

   d. Reference center line alignment
      2 hours x 2 men = 4 MH

   e. Locate existing topography
      24 hours x 2 men = 48 MH

   Sub-total Item #1 94 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      3 hours x 1 man = 3 MH

   b. Compute existing R.O.W. lines
      12 hours x 1 man = 12 MH

   c. Edit & compile topographic survey
      6 hours x 1 man = 6 MH

   Sub-total Item #2 21 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      18 hours x 1 man = 18 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

Sub-total Item #3 20 MH

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

   a. Compute contours
      3 hours x 1 man = 3 MH

   b. Check contours
      1 hour x 1 man = 1 MH

Sub-total Item #4 4 MH

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

Total All Items 141 MH

Route: U.S. Route 12
Section: From North of Volo Village Road
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	47
	Instrument Operator	47
2. Office - Compile Field Data	Supervisor, P.L.S.	12
	Cadd Supervisor	9
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	2
	Cadd Supervisor	18
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	3
5. Coordination Meetings	Principal/Officer	2

Route: U.S. Route 12
Section: From North of Volo Village Road
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 6 ea.
    ± 25 miles/trip x 6 trips = ± 150 miles
    ± 150 miles @ $0.55/mile = $ 82.50

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

Total All Items $ 115.50

Route: U.S. Route 12
Section: From South of Illinois Route 120 to North of Extended Ellis Drive
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. ……. $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: U.S. Route 12
Section: From South of Illinois Route 120 to North of Extended Ellis Drive
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	9 hours	@	$39.00/hour	=	$ 351.00
Survey Party Chief, S.I.T.	36 hours	@	$21.50/hour	=	$ 774.00
Instrument Operator	36 hours	@	$17.50/hour	=	$ 630.00
Cadd Supervisor	20 hours	@	$26.50/hour	=	$ 530.00
	103 hours				$ 2,369.00

$$\text{Average Hourly Rate} = \frac{\$2,369.00}{103} = \$23.00/\text{hour}$$

Route: U.S. Route 12
Section: South of ILL. 120 to North of Extended Ellis Dr.
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 24, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	72	$1,404.00	$1,830.68	$68.75	$3,303.43	$478.20	N/A	$3,781.63	59.42%
2) Office - Compile Field Data	12	$393.00	$512.43	$0.00	$905.43	$131.07	N/A	$1,036.50	16.29%
3) Office - Create Existing Topography Base Sheets	14	$396.00	$516.34	$0.00	$912.34	$132.07	N/A	$1,044.41	16.41%
4) Office - Create T.I.N. & Contours	3	$92.00	$119.96	$0.00	$211.96	$30.68	N/A	$242.64	3.81%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	4.07%
TOTALS	103	$2,369.00	$3,088.94	$101.75	$5,559.69	$804.82	$0.00	$6,364.50	100.00%

Route: U.S. Route 12
Section: From South of Illinois Route 120 to North of Extended Ellis Drive
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

U.S. Route 12	± 1,050' =	± 0.199 mile
Total Length	± 1,050' =	± 0.199 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      2 hours x 2 men = 4 MH

   b. Locate existing R.O.W. line occupation
      4 hours x 2 men = 8 MH

   c. Monument center line alignment at 100 foot intervals
      4 hours x 2 men = 8 MH

   d. Reference center line alignment
      2 hours x 2 men = 4 MH

   e. Locate existing topography
      24 hours x 2 men = 48 MH

   Sub-total Item #1 72 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      1 hour x 1 man = 1 MH

   b. Compute existing R.O.W. lines
      6 hours x 1 man = 6 MH

   c. Edit & compile topographic survey
      5 hours x 1 man = 5 MH

   Sub-total Item #2 12 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      12 hours x 1 man = 12 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

Sub-total Item #3 14 MH

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

   a. Compute contours
      2 hours x 1 man = 2 MH

   b. Check contours
      1 hour x 1 man = 1 MH

Sub-total Item #4 3 MH

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

Total All Items 103 MH

Route: U.S. Route 12
Section: From South of Illinois Route 120 to North of Extended Ellis Drive
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography	Survey Party Chief, S.I.T.	36
Survey	Instrument Operator	36
2. Office - Compile	Supervisor, P.L.S.	6
Field Data	Cadd Supervisor	6
3. Office – Create	Supervisor, P.L.S.	2
Existing Topography	Cadd Supervisor	12
Base Sheets		
4. Office - Create	Supervisor, P.L.S.	1
T.I.N. and	Cadd Supervisor	2
Contours		
5. Coordination	Principal/Officer	2
Meetings		

Route: U.S. Route 12
Section: From South of Illinois Route 120 to North of Extended Ellis Drive
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 5 ea.
    ± 25 miles/trip x 5 trips = ± 125 miles
    ± 125 miles @ $0.55/mile = $ 68.75

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

Total All Items $ 101.75

Route: U.S. Route 12
Section: From South of Extended Ellis Drive
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. …… $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: U.S. Route 12
Section: From South of Extended Ellis Drive
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	11 hours	@	$39.00/hour	=	$ 429.00
Survey Party Chief, S.I.T.	40 hours	@	$21.50/hour	=	$ 860.00
Instrument Operator	40 hours	@	$17.50/hour	=	$ 700.00
Cadd Supervisor	20 hours	@	$26.50/hour	=	$ 530.00
	113 hours				$ 2,603.00

Average Hourly Rate = $\frac{\$2,603.00}{113}$ = $23.04/hour

Route: U.S. Route 12
Section: South of Extended Ellis Drive
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 24, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	80	$1,560.00	$2,034.08	$68.75	$3,662.83	$530.23	N/A	$4,193.06	59.70%
2) Office - Compile Field Data	16	$524.00	$683.24	$36.50	$1,243.74	$180.05	N/A	$1,423.79	20.27%
3) Office - Create Existing Topography Base Sheets	12	$343.00	$447.24	$0.00	$790.24	$114.39	N/A	$904.63	12.88%
4) Office - Create T.I.N. & Contours	3	$92.00	$119.96	$0.00	$211.96	$30.68	N/A	$242.64	3.45%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	3.69%
TOTALS	113	$2,603.00	$3,394.05	$138.25	$6,135.30	$888.15	$0.00	$7,023.45	100.00%

Route: U.S. Route 12
Section: From South of Extended Ellis Drive
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

U.S. Route 12	± 700' = ± 0.133 mile
Total Length	± 700' = ± 0.133 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      8 hours x 2 men = 16 MH

   b. Locate existing R.O.W. line occupation
      12 hours x 2 men = 24 MH

   c. Monument center line alignment at 100 foot intervals
      4 hours x 2 men = 8 MH

   d. Reference center line alignment
      2 hours x 2 men = 4 MH

   e. Locate existing topography
      14 hours x 2 men = 28 MH

   Sub-total Item #1 80 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      1 hour x 1 man = 1 MH

   b. Research records
      3 hours x 1 man = 3 MH

   c Compute existing R.O.W. lines
      8 hours x 1 man = 8 MH

   d. Edit & compile topographic survey
      4 hours x 1 man = 4 MH

   Sub-total Item #2 16 MH

.

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      10 hours x 1 man = 10 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

	Sub-total Item #3	12 MH

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

   a. Compute contours
      2 hours x 1 man = 2 MH

   b. Check contours
      1 hour x 1 man = 1 MH

	Sub-total Item #4	3 MH

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

	Total All Items	113 MH

Route: U.S. Route 12
Section: From South of Extended Ellis Drive
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography	Survey Party Chief, S.I.T.	40
Survey	Instrument Operator	40
2. Office - Compile	Supervisor, P.L.S.	8
Field Data	Cadd Supervisor	8
3. Office – Create	Supervisor, P.L.S.	2
Existing Topography	Cadd Supervisor	10
Base Sheets		
4. Office - Create	Supervisor, P.L.S.	1
T.I.N. and	Cadd Supervisor	2
Contours		
5. Coordination	Principal/Officer	2
Meetings		

Route: U.S. Route 12
Section: From South of Extended Ellis Drive
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item		
1. Field - Topographic Survey		
a. Trips to project site - 5 ea. ± 25 miles/trip x 5 trips = ± 125 miles ± 125 miles @ $0.55/mile =		$ 68.75
2. Office - Compile Field Data		
a. Trips to County Recorder - 1 ea. ± 30 miles/trip x 1 trip = ± 30 miles ± 30 miles @ $0.55/mile =		$ 16.50
b. Miscellaneous Records		$ 20.00
	Sub-total Item #2	$ 36.50
5. Coordination Meetings		
a. Meetings at TranSystems' office - 1 ea. ± 60 miles/trip x 1 trip = ± 60 miles ± 60 miles @ $0.55/mile =		$ 33.00
	Total All Items	$ 138.25

Route: Volo Village Road
Section: From East of U.S. Route 12 to West of Illinois Route 120
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. ……. $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: Volo Village Road
Section: From East of U.S. Route 12 to West of Illinois Route 120
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	11 hours	@	$39.00/hour	=	$ 429.00
Survey Party Chief, S.I.T.	38 hours	@	$21.50/hour	=	$ 817.00
Instrument Operator	38 hours	@	$17.50/hour	=	$ 665.00
Cadd Supervisor	26 hours	@	$26.50/hour	=	$ 689.00
	115 hours				$ 2,684.00

Average Hourly Rate = $\frac{\$2,684.00}{115}$ = $23.34/hour

Route: Volo Village Road
Section: East of U.S. 12 to West of Illinois 120
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 24, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	76	$1,482.00	$1,932.38	$68.75	$3,483.13	$504.22	N/A	$3,987.35	55.42%
2) Office - Compile Field Data	15	$497.50	$648.69	$0.00	$1,146.19	$165.92	N/A	$1,312.11	18.24%
3) Office - Create Existing Topography Base Sheets	18	$502.00	$654.56	$0.00	$1,156.56	$167.42	N/A	$1,323.97	18.40%
4) Office - Create T.I.N. & Contours	4	$118.50	$154.51	$0.00	$273.01	$39.52	N/A	$312.53	4.34%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	3.60%
TOTALS	115	$2,684.00	$3,499.67	$101.75	$6,285.42	$909.87	$0.00	$7,195.29	100.00%

Route: Volo Village Road
Section: From East of U.S. Route 12 to West of Illinois Route 120
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Volo Village Road	±	750' =	± 0.142 mile
Total Length	±	750' =	± 0.142 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      2 hours x 2 men = 4 MH

   b. Locate existing R.O.W. line occupation
      8 hours x 2 men = 16 MH

   c. Monument center line alignment at 100 foot intervals
      4 hours x 2 men = 16 MH

   d. Reference center line alignment
      2 hours x 2 men = 4 MH

   e. Locate existing topography
      18 hours x 2 men = 36 MH

   Sub-total Item #1 76 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      2 hours x 1 man = 2 MH

   b. Compute existing R.O.W. lines
      8 hours x 1 man = 8 MH

   c. Edit & compile topographic survey
      5 hours x 1 man = 5 MH

   Sub-total Item #2 15 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      16 hours x 1 man = 16 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

   Sub-total Item #3 18 MH

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

   a. Compute contours
      3 hours x 1 man = 3 MH

   b. Check contours
      1 hour x 1 man = 1 MH

   Sub-total Item #4 4 MH

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

   Total All Items 115 MH

Route: Volo Village Road
Section: From East of U.S. Route 12 to West of Illinois Route 120
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography	Survey Party Chief, S.I.T.	38
Survey	Instrument Operator	38
2. Office - Compile	Supervisor, P.L.S.	8
Field Data	Cadd Supervisor	7
3. Office – Create	Supervisor, P.L.S.	2
Existing Topography	Cadd Supervisor	16
Base Sheets		
4. Office - Create	Supervisor, P.L.S.	1
T.I.N. and	Cadd Supervisor	3
Contours		
5. Coordination	Principal/Officer	2
Meetings		

Route: Volo Village Road
Section: From East of U.S. Route 12 to West of Illinois Route 120
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 5 ea.
    ± 25 miles/trip x 5 trips = ± 125 miles
    ± 125 miles @ $0.55/mile = $ 68.75

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

Total All Items $ 101.75

Route: Gilmer Road
Section: From South of Illinois Route 120 to North of Ellis Drive
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Survey Party Chief

E. Instrument Operator

F. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. ……. $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Survey Party Chief …….…….... $ 21.50
E. Instrument Operator …….. $ 17.50
F. Cadd Supervisor …….. $ 26.50

Route: Gilmer Road
Section: From South of Illinois Route 120 to North of Ellis Drive
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	9 hours	@	$39.00/hour	=	$ 351.00
Survey Party Chief, S.I.T.	30 hours	@	$21.50/hour	=	$ 645.00
Survey Party Chief	2 hours	@	$21.50/hour	=	$ 43.00
Instrument Operator	30 hours	@	$17.50/hour	=	$ 525.00
Instrument Operator	2 hours	@	$17.50/hour	=	$ 35.00
Cadd Supervisor	22 hours	@	$26.50/hour	=	$ 583.00
	97 hours				$ 2,266.00

Average Hourly Rate = $2,266.00 / 97 = $23.36/hour

Route: Gilmer Road
Section: South of Illinois 120 to North of Ellis Drive
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 24, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	64	$1,248.00	$1,627.27	$55.00	$2,930.27	$424.18	N/A	$3,354.45	55.20%
2) Office - Compile Field Data	12	$393.00	$512.43	$0.00	$905.43	$131.07	N/A	$1,036.50	17.06%
3) Office - Create Existing Topography Base Sheets	16	$449.00	$585.45	$0.00	$1,034.45	$149.74	N/A	$1,184.19	19.49%
4) Office - Create T.I.N. & Contours	3	$92.00	$119.96	$0.00	$211.96	$30.68	N/A	$242.64	3.99%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	4.27%
TOTALS	97	$2,266.00	$2,954.64	$88.00	$5,308.64	$768.47	$0.00	$6,077.11	100.00%

Route: Gilmer Road
Section: From South of Illinois Route 120 to North of Ellis Drive
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Gilmer Road	± 850' =	± 0.161 mile
Total Length	± 850' =	± 0.161 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      2 hours x 2 men = 4 MH

   b. Locate existing R.O.W. line occupation
      6 hours x 2 men = 12 MH

   c. Monument center line alignment at 100 foot intervals
      2 hours x 4 men = 8 MH

   d. Reference center line alignment
      2 hours x 2 men = 4 MH

   e. Locate existing topography
      18 hours x 2 men = 36 MH

   Sub-total Item #1 64 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      1 hour x 1 man = 1 MH

   b. Compute existing R.O.W. lines
      6 hours x 1 man = 6 MH

   c. Edit & compile topographic survey
      5 hours x 1 man = 5 MH

   Sub-total Item #2 12 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      14 hours x 1 man = 14 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

   Sub-total Item #3 16 MH

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

   a. Compute contours
      2 hours x 1 man = 2 MH

   b. Check contours
      1 hour x 1 man = 1 MH

   Sub-total Item #4 3 MH

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

   Total All Items 97 MH

Route: Gilmer Road
Section: From South of Illinois Route 120 to North of Ellis Drive
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	30
	Survey Party Chief	2
	Instrument Operator	30
	Instrument Operator	2
2. Office - Compile Field Data	Supervisor, P.L.S.	6
	Cadd Supervisor	6
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	2
	Cadd Supervisor	14
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	2
5. Coordination Meetings	Principal/Officer	2

Route: Gilmer Road
Section: From South of Illinois Route 120 to North Ellis Drive
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item

1. Field - Topographic Survey

    a. Trips to project site - 4 ea.
    ± 25 miles/trip x 4 trips = ± 100 miles
    ± 100 miles @ $0.55/mile = $ 55.00

5. Coordination Meetings

    a. Meetings at TranSystems' office - 1 ea.
    ± 60 miles/trip x 1 trip = ± 60 miles
    ± 60 miles @ $0.55/mile = $ 33.00

Total All Items $ 88.00

Route: Ellis Drive
Section: From North of Gilmer Road to South of Illinois Route 120
County: Lake
Job No.:

Exhibit "D"

Classification Types & Rates

Sheet 1 of 2

A. Principal/Officer

B. Supervisor, P.L.S.

C. Survey Party Chief, S.I.T.

D. Instrument Operator

E. Cadd Supervisor

Classification Rates used for Calculation of Fee

A. Principal/Officer ……. $ 42.00
B. Supervisor, P.L.S. …… $ 39.00
C. Survey Party Chief, S.I.T. ……. $ 21.50
D. Instrument Operator …….. $ 17.50
E. Cadd Supervisor …….. $ 26.50

Route: Ellis Drive
Section: From North of Gilmer Road to South of Illinois Route 120
County: Lake
Job No.:

Exhibit "D"

Average Hourly Rate Calculation

Sheet 2 of 2

Principal/Officer	2 hours	@	$42.00/hour	=	$ 84.00
Supervisor, P.L.S.	11 hours	@	$39.00/hour	=	$ 429.00
Survey Party Chief, S.I.T.	47 hours	@	$21.50/hour	=	$ 1,010.50
Instrument Operator	47 hours	@	$17.50/hour	=	$ 822.50
Cadd Supervisor	27 hours	@	$26.50/hour	=	$ 715.50
	134 hours				$ 3,061.50

Average Hourly Rate = $\frac{\$3,061.50}{134}$ = $22.85/hour

Route: Ellis Drive
Section: North of Gilmer Road to South of Illinois 120
Project:
County: Lake
Job No.:

COST ESTIMATE OF CONSULTANT'S SERVICES

Consultant: Jorgensen & Associates, Inc.
Date: February 24, 2012
Description: Topographic Survey
Cost Plus Fixed Fee = 14.5%[(2.3 + R)DL + IHDC]

Item	Number of Man Hours (A)	Payroll (B)	Overhead & Fringe Benefits (C)	In-House Direct Costs (D)	Sub-Total (E)	Profit (F)	Services By Others	Total	Percent of Grand Total
1) Field - Topographic Survey	94	$1,833.00	$2,390.05	$55.00	$4,278.05	$619.28	N/A	$4,897.33	59.90%
2) Office - Compile Field Data	16	$524.00	$683.24	$0.00	$1,207.24	$174.75	N/A	$1,382.00	16.90%
3) Office - Create Existing Topography Base Sheets	18	$502.00	$654.56	$0.00	$1,156.56	$167.42	N/A	$1,323.97	16.20%
4) Office - Create T.I.N. & Contours	4	$118.50	$154.51	$0.00	$273.01	$39.52	N/A	$312.53	3.82%
5) Coordination Meetings	2	$84.00	$109.53	$33.00	$226.53	$32.80	N/A	$259.33	3.17%
TOTALS	134	$3,061.50	$3,991.89	$88.00	$7,141.39	$1,033.77	$0.00	$8,175.16	100.00%

Route: Ellis Drive
Section: From North of Gilmer Road to South of Illinois Route 120
County: Lake
Job No.:

Manhour Breakdown
Topographic Survey Estimate

Ellis Drive	± 1,100' = ± 0.208 mile
Total Length	± 1,100' = ± 0.208 mile

1. Field – Topographic Survey

   a. Measure traverse & level circuit
      4 hours x 2 men = 8 MH

   b. Locate existing R.O.W. line occupation
      8 hours x 2 men = 16 MH

   c. Monument center line alignment at 100 foot intervals
      6 hours x 2 men = 12 MH

   d. Reference center line alignment
      4 hours x 2 men = 8 MH

   e. Locate existing topography
      25 hours x 2 men = 50 MH

   Sub-total Item #1 94 MH

2. Office - Compile Field Data

   a. Compute traverse & level circuit
      2 hours x 1 man = 2 MH

   b. Compute existing R.O.W. lines
      8 hours x 1 man = 8 MH

   c. Edit & compile topographic survey
      6 hours x 1 man = 6 MH

   Sub-total Item #2 16 MH

3. Office - Create Existing Topography Base Sheets

   a. Layout and drafting
      16 hours x 1 man = 16 MH

   b. Check topographic survey
      2 hours x 1 man = 2 MH

   Sub-total Item #3 18 MH

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

   a. Compute contours
      3 hours x 1 man = 3 MH

   b. Check contours
      1 hour x 1 man = 1 MH

   Sub-total Item #4 4 MH

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

   Total All Items 134 MH

Route: Ellis Drive
Section: From North of Gilmer Road to South of Illinois Route 120
County: Lake
Job No.:

Manhour Breakdown By Item

Item	Classification	Manhours
1. Field – Topography Survey	Survey Party Chief, S.I.T.	47
	Instrument Operator	47
2. Office - Compile Field Data	Supervisor, P.L.S.	8
	Cadd Supervisor	8
3. Office – Create Existing Topography Base Sheets	Supervisor, P.L.S.	2
	Cadd Supervisor	16
4. Office - Create T.I.N. and Contours	Supervisor, P.L.S.	1
	Cadd Supervisor	3
5. Coordination Meetings	Principal/Officer	2

Route: Ellis Drive
Section: From North of Gilmer Road to South of Illinois Route 120
County: Lake
Job No.:

Breakdown of
In House Direct Costs

Item		
1. Field - Topographic Survey		
a. Trips to project site - 4 ea. ± 25 miles/trip x 4 trips = ± 100 miles ± 100 miles @ $0.55/mile =		$ 55.00
5. Coordination Meetings		
a. Meetings at TranSystems' office - 1 ea. ± 60 miles/trip x 1 trip = ± 60 miles ± 60 miles @ $0.55/mile =		$ 33.00
	Total All Items	$ 88.00

EXHIBIT C-2

SUBCONSULTANT SERVICES
Cardno ENTRIX

March 21, 2012

Cardno ENTRIX

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Jeffrey R. Hall, P.E.
Associate
Assistant Vice President
TranSystems
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Schaumburg, IL 60173-5440

Subject: Proposal to Provide Environmental Science and Engineering Services
Gilmer Road at IL Route 120 Realignment Project
Volo, Lake County, Illinois

Dear Mr. Hall:

Cardno ENTRIX is pleased to present TranSystems with this proposal to provide environmental science and engineering services for Phase I Preliminary Engineering of the Gilmer Road at IL Route 120 Realignment Project (Gilmer Road at IL Route 120 Project) located in the Village of Volo, Lake County, Illinois. Services presented in this proposal coincide with Phase I transportation engineering of the Gilmer Road at IL Route 120 Project and include wetland survey, tree survey, drain tile survey, Special Waste Screening (SWS), preliminary Lake County Stormwater Management Commission (LCSMC) coordination, preliminary Illinois Department of Transportation (IDOT) coordination, and Preliminary Environmental Site Assessment (PESA). Cardno ENTRIX presents this proposal in the following sections: project description, scope of work, limitations and reliability, project team, project schedule, project costs, and proposal acceptance.

PROJECT DESCRIPTION

Cardno ENTRIX understands that the Lake County Division of Transportation (LCDOT) has retained TranSystems to complete the federally funded Phase 1 Preliminary Engineering for the realignment of Gilmer Road at IL Route 120. The proposed improvements include adding a free-flow right-turn lane from Gilmer Road to Ellis Drive, adding a traffic signal at the IL Route 120 at Ellis Drive intersection, removing the traffic signal and converting Gilmer Road to right-in-right-out at IL Route 120, and extending Ellis Drive from Gilmer Road to U.S. Route 12. Additional services include the study of Volo Village Road at the U.S. Route 12 intersection and the extension of Ellis Drive from U.S. Route 12 to IL Route 120.

TranSystems has solicited Cardno ENTRIX to provide environmental science and engineering services for the Gilmer Road at IL Route 120 Project, which is likely to be processed as an Abbreviated Environmental Assessment. These services consist of environmental science and engineering studies, project development report assistance, and preliminary environmental permitting coordination.

TranSystems presented Cardno ENTRIX with a series of project limits on December 8, 2011, and December 20, 2011. These limits are intended to be task specific and are divided into three

areas: 2a Core Area, 2b Pick-up Area 1, and 2c Pick-up Area 2. The limits of these areas correspond to the designations provided by TranSystems as described below:

2a Core Area – The limits of initial survey include:

i. Village Volo Road at IL Route 120 intersection;
ii. Village Volo Road at U.S. Route 12 intersection;
iii. Ellis Drive at IL Route 120 intersection;
iv. Gilmer Road at IL Route 120 intersection;
v. IL Route 120 at U.S. Route 12 intersection;
vi. Ellis Drive at Gilmer Road intersection; and
vii. Extended Ellis Drive at U.S. Route 12 intersection.

2b Pick-up Area 1 – Upon completion of preliminary studies, additional areas may include:

i. Extended Ellis Drive from Gilmer Road to U.S. Route 12;
ii. Extended Ellis Drive from U.S. Route 12 to IL Route 120;
iii. Potential expanded detention pond location at east corner of Ellis Drive at Gilmer Road;
iv. Potential detention pond location at northeast corner of Ellis Drive at IL Route 120;
v. Potential detention pond location at northeast corner of Volo Village Road at IL Route 120; and
vi. Potential detention pond location at northwest corner of Volo Village Road at IL Route 120.

2c Pick-up Area 2 – Upon selection of alternative alignments, additional roadway areas may include:

i. IL Route 120 from Fisher Road to west of Volo Village Road;
ii. IL Route 120 from east of Volo Village Road to west of U.S. Route 12;
iii. IL Route 120 from east of Ellis Drive to IL Route 60;
iv. U.S. Route 12 from north of Volo Village Road;
v. U.S. Route 12 from south of IL Route 120 to north of extended Ellis Drive;
vi. U.S. Route 12 from south of extended Ellis Drive;
vii. Volo Village Road from east of U.S. Route 12 to west of IL Route 120;
viii. Gilmer Road from south of IL Route 120 to north of Ellis Drive; and
ix. Ellis Drive from north of Gilmer Road to south of IL Route 120.

The limits for the wetland survey, drain tile survey, and SWS are defined by the Project Corridor, consisting of 2a Core Area, 2b Pick-up Area 1, and 2c Pick-up Area 2. The tree survey and PESA limits are dependent upon the proposed alternative alignments selected and the results of the SWS. Once alternatives have been chosen, the tree survey and the PESA will be conducted in select areas as appropriate. All roadways within each designated area will include an additional 10 feet beyond the roadway right-of-way (ROW) at a minimum or unless noted otherwise.

SCOPE OF WORK

The Cardno ENTRIX services presented in this scope of work pertain to the environmental studies portion of the Gilmer Road at IL Route 120 Project. These services include necessary components required for the preparation, submittal, and biological sign-off of the Environmental Survey Request Form through IDOT. TranSystems has requested that Cardno ENTRIX present the environmental studies scope of work in five (5) tasks:

Task 1 – Wetland Survey;

Task 2 – Tree Survey;

Task 3 – Drain Tile Survey;
Task 4 – Special Waste Screening (SWS); and
Task 5 – Preliminary Environmental Site Assessment (PESA).

Each task includes appropriate levels of preliminary permitting coordination, regulatory coordination, public involvement, and coordination with TranSystems, LCSMC, LCDOT, IDOT, Illinois Department of Natural Resources (IDNR), U.S. Amy Corps of Engineers (USACE), and U.S. Fish and Wildlife Service (USFWS).

Task 1 - Wetland Survey

Cardno ENTRIX proposes to conduct a wetland survey for areas within the Project Corridor in accordance with the requirements presented in the Lake County Watershed Development Ordinance (LCWDO) and the August 2010 USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, Version 2.0 (Supplemental Manual). This proposed wetland survey includes all areas within the Project Corridor and any additional areas within 100 feet of roadway ROWs, per requirements of the LCWDO. This additional investigation area ensures that all potential Lake County Advanced Identified (ADID) wetlands and their 100 foot buffer areas are identified within the proposed roadway ROWs of the Gilmer Road at IL Route 120 Project.

Proposed wetland survey services include the identification and delineation of all on-site wetlands, documentation of all adjacent wetlands, determination and delineation of wetland buffer areas, and determination of high quality aquatic resources (HQAR). The scope of this task includes an off-site record/document review followed by an on-site investigation. Field investigation activities include on-site testing for the presence of hydric soils, hydrophytic vegetation, and sufficient hydrology. A floristic quality assessment (FQA) will be conducted for each identified wetland, as required by the LCWDO. All wetland investigation activities will follow the standards outlined in the LCWDO and the Supplemental Manual. Cardno ENTRIX's Lake County Certified Wetland Specialist will lead these field investigation activities.

Where appropriate, Cardno ENTRIX will flag USACE and Isolated Waters of Lake County (IWLC) jurisdictional wetland limits within the Project Corridor. Cardno ENTRIX will coordinate with TranSystems and their surveyors to ensure that all wetland and soil pit flags are surveyed. Cardno ENTRIX proposes that this wetland survey information be provided by TranSystems in MicroStation format for inclusion in the Wetland Delineation Report.

This task includes a pre-application meeting, an on-site meeting, and coordination with TranSystems, LCSMC, and USACE. Cardno ENTRIX will submit the wetland delineation report to LCSMC for preliminary jurisdictional determination (PJD) and boundary verification (BV) of IWLC. Cardno ENTRIX will also submit the wetland delineation report to USACE for concurrence and jurisdictional determination of "waters of the U.S." (WOUS), including wetlands. Any fees required for these submittals have not been included in this scope of services as the number of wetlands has not yet been determined. These fees are the responsibility of LCDOT and will be paid directly to the appropriate permitting agencies. Cardno ENTRIX will continue coordination with both LCSMC and USACE until jurisdictional determinations and boundary verifications are completed.

As part of this task, Cardno ENTRIX will submit an Ecological Compliance Assessment Tool (EcoCAT) request to the IDNR for identification of state listed threatened or endangered (T&E) species and Natural Areas within, adjoining, or adjacent to the Project Corridor. Cardno ENTRIX will also prepare the preliminary Section 7 consultation memorandum to the USFWS for identification of federally listed T&E species within, adjoining, or adjacent to the Project Corridor.

Cardno ENTRIX understands that the Gilmer Road at IL Route 120 Project is an IDOT federally funded pass-through project. Therefore, the scope of services for this task is also based on IDOT Wetland Procedures for Local Agencies. That document was created to comply with the Interagency Wetland Policy Act (IWPA) of 1989 and the Implementing Procedures for the Interagency Wetland Policy Act. Cardno ENTRIX will submit to IDOT the WIE forms for all proposed wetland impacts as determined by TranSystems. Cardno ENTRIX will coordinate with IDOT for concurrence with regard to the wetland delineation report and proposed wetland impacts.

Four (4) copies of the final Wetland Delineation Report and a .pdf format file will be forwarded to TranSystems for review and distribution.

Task 2 - Tree Survey

Cardno ENTRIX proposes to conduct an on-site tree survey and to prepare a comprehensive Tree Survey Report for the Gilmer Road at IL Route 120 Project. The limits of this investigation are divided into three areas, which together constitute the Project Corridor: 2a Core Area, 2b Pick-up Area 1, and 2c Pick-up Area 2. These proposed limits also include areas within 20 feet of the roadway ROW at a minimum. Cardno ENTRIX understands that the tree survey for the 2a Core Area will be a necessary component of the Gilmer Road at IL Route 120 Project, and that based on the alternative alignments chosen, 2b Pick-up Area 1 or 2c Pick-up Area 2 may also be necessary. Upon authorization, Cardno ENTRIX will complete the tree survey services for the selected areas only.

Tree survey services presented in this proposal include survey of all trees 4 inches and greater diameter at breast height (DBH) and all landscaped/ornamental trees or trees planted for environmental mitigation and habitat preservation/enhancement regardless of DBH. These trees will be flagged, not tagged, and will be surveyed in accordance with the appropriate IDOT tree survey methodologies. Cardno ENTRIX proposes to document each tree diameter, height, species, health, structure, and origin. Cardno ENTRIX has reviewed aerial photography, has visited the project site, and has estimated the number of trees 4 inches and greater DBH to be: 400 within 2a Core Area; 250 within 2b Pick-up Area 1; and 300 within 2c Pick-up Area 2.

This task includes Cardno ENTRIX coordination with TranSystems, their surveyors, and their CAD technicians. Cardno ENTRIX assumes that TranSystems will provide a MicroStation file with the topographic survey of flagged trees for the tree location figure in the Tree Survey Report. All findings of the tree survey investigation will be included in the Tree Survey Report and four (4) copies of this report and a .pdf format file will be forwarded to TranSystems for review and distribution.

Task 3 – Drain Tile Survey

Cardno ENTRIX proposes to conduct a drain tile survey for the Project Corridor. Findings from this survey will be presented in a Drain Tile Survey Memorandum. Cardno ENTRIX understands the purpose of this Drain Tile Survey is to identify drain tile locations for planning during the drainage studies of the Gilmer Road at IL Route 120 Project.

Cardno ENTRIX proposes to locate drain tiles according to the methodologies proposed herein, to identify potential drain tile corridors for planning purposes, and to recommend areas for further, more invasive, drain tile survey investigations. Services provided as part of this drain tile survey include a desktop survey and map review, field investigation, and preparation of a technical memorandum. The desktop survey and map review includes: coordination with the Natural Resources Conservation Service (NRCS) or other agencies as appropriate; and a review of historical aerials, topography, soil surveys, hydrology, and other resources that may identify potential drain tile locations. Cardno ENTRIX will then conduct an on-site survey to identify, locate, and flag drain tile locations and corridors in the field. This drain tile survey will utilize a standard tile probe to locate existing drain tile systems. This drain tile investigation methodology is not intended to damage existing drain tiles or impact existing drainage patterns, however, should damage to drain tiles occur, Cardno ENTRIX will notify TranSystems immediately. This drain tile survey does not include the use of construction equipment to dig, locate, or repair drain tiles and is not intended to locate the exact location of every drain tile location within the Project Corridor. Findings of no drain tiles identified or encountered in the field will be noted in the Drain Tile Memorandum. Documentation from the drain tile survey may include site conditions, type, estimated depth, and estimated size of drain tiles. These findings will be detailed in the Drain Tile Survey Memorandum and four (4) copies of this memorandum and a .pdf format file will be forwarded to TranSystems for review and distribution.

Task 4 - Special Waste Screening (SWS)

Based on the Special Waste Procedures for Local Highway Improvements criteria outlined by IDOT Bureau of Local Roads and Streets (BLR&S), an SWS must be conducted to determine the environmental condition of all sites within and adjacent to the Project Corridor prior to construction. Findings presented in the subject SWS are

intended to identify the need for a subsequent PESA as part of the Phase I process. If a PESA is necessary and authorized, Cardno ENTRIX will complete the PESA process in accordance with BLR&S guidance, as well as the All Appropriate Inquires (AAI) guidance and the appropriate portions of the Illinois State Geological Survey and IDOT supported "A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Highway Projects".

Cardno ENTRIX proposes to conduct an SWS as part this task. The purpose of the SWS is to determine the potential involvement of the Gilmer Road at IL Route 120 Project with special waste and other regulated substances, and to determine if further action is necessary. The results of the SWS will be used to complete the Environmental Survey Request (ESR) form and will determine if a subsequent PESA is necessary.

The proposed procedures to conduct the SWS follow the methodology outlined by the BLR&S and include a database review, land use determination, project involvement, and known current conditions. Special waste databases will be reviewed for special wastes and regulated substances within the Project Corridor and the appropriate BLR&S boundaries. The special waste databases that will be accessed as part of this task include: the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS); the Leaking Underground Storage Tank (LUST) Incident Tracking; the Underground Storage Tank (UST); and the Resource Conservation and Recovery Act (RCRA) Information. Potential special waste sites identified in the database review, in addition to information collected regarding land use, project involvement, and known current conditions, will be identified as areas of concern (AOC) and will determine if a PESA will be required. If the SWS findings identify no AOCs within the Project Corridor and the BLR&S boundaries, Cardno ENTRIX will propose a No Further Assessment for the Gilmer Road at IL Route 120 Project. Findings from the SWS will be included in an SWS Memorandum and four (4) copies of this memorandum and a .pdf format file will be forwarded to TranSystems for review and distribution.

Task 5: Preliminary Environmental Site Assessment (PESA) (Optional)

If AOCs within the Project Corridor are identified in the SWS, Cardno ENTRIX proposes to conduct a PESA as part of this task. It is assumed that IDOT will conduct the PESA for state owned and managed roadways, including IL Route 120 and U.S. Route 12. The scope of work for the PESA presented herein includes only areas within the Project Corridor that are not included in these state managed and owned roadways. This PESA consists of four (4) work items that are necessary to identify recognized environmental conditions (RECs) or historical RECs. As part of the PESA, Cardno ENTRIX proposes to identify RECs that may exist from current or past uses of properties in or adjacent to the AOCs presented in the SWS. Cardno ENTRIX assumes that current owners of AOC properties will be available and cooperative in providing full disclosure about any known environmental matters/concerns about the AOCs or adjacent properties.

Work Item 1 - Records Review

As part this task, Cardno ENTRIX first proposes to conduct a Records Review. This review is intended to collect detailed information relevant to the AOCs and adjacent sites for the purpose of identifying recognized environmental conditions (RECs) or historical RECs in connection with the Project Corridor. Records will be obtained from reasonably ascertainable and standard sources, including:

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

Work Item 2 - Site Reconnaissance

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

Work Item 3 - Interviews

Cardno ENTRIX proposes to conduct Interviews as part of this task. These Interviews will be conducted with owners of the AOC sites identified in the SWS to confirm or refute the information obtained from the Records Review. At a minimum, a key manager or individual with good knowledge of the uses and physical characteristics of the property will be interviewed. Owners or occupants may provide information that would be identified as an REC that is not available in the records (e.g. historical "unrecorded" waste disposal practices conducted on-site or at neighboring facilities). Cardno ENTRIX assumes that the owner or owner's representative will satisfy this objective.

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

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

Local government officials who are responsible for USTs or hazardous material storage and waste disposal will be contacted. The questions asked of the local officials are aimed at gaining a better insight into the current and past uses of the AOC sites and adjacent properties. Owners of properties not identified in the SWS will not be contacted under this scope of work.

Work Item 4 - PESA Report

Cardno ENTRIX proposes to prepare a comprehensive PESA Report as the final work item under this task. This PESA Report will summarize the information obtained from the three (3) preceding work items of this task, disclose all information regarding RECs and historical RECs, and provide opinions and recommendations regarding the RECs and historical RECs. The PESA Report will contain all information gathered during the investigation and will designate all potential AOCs identified in the SWS with a PESA Risk Findings designation in accordance with the BLR&S methodology. Cardno ENTRIX will prepare and submit a draft PESA Report to TranSystems for review. Cardno ENTRIX will incorporate TranSystems' comments and submit four (4) copies and a .pdf format file of the final PESA Report to TranSystems for use and distribution.

LIMITATIONS AND RELIABILITY

Cardno ENTRIX will utilize methods and procedures consistent with good commercial or customary practices designed to conform to acceptable industry standards referenced in the IDOT Phase 1 PESA guidance materials, which reference ASTM E-1527-05 standards. Cardno ENTRIX understands this guidance to include reference to the adopted AAI Rule (40 CFR 312). The Cardno ENTRIX PESA is limited to the information available at the time services are rendered. This limitation includes visual observations made on the day of inspection, review of readily available and relevant data/reports, and statements made and information provided by the client, his agents, land-owners or tenants of subject property and adjacent properties, outside parties, and regulatory agencies. A PESA is a limited and non-exhaustive survey that is intended to evaluate whether the readily available information about a property or adjacent properties indicates that the historic or current use of the site or adjacent sites: has resulted in releases or threatened releases of hazardous materials; or are potentially responsible for recognized environmental conditions which could negatively impact the value of the property and future liability, and financial exposure of future property owners.

PROJECT TEAM

Cardno ENTRIX proposes to manage this project out of the Barrington, Illinois office with personnel who have significant experience in conducting environmental site assessments and environmental sampling. Mr. Barry Stuedemann, P.E., PWS, will serve as Project Manager, Lake County Certified Wetland Specialist, and Environmental Engineer. Cardno ENTRIX has many qualified environmental professionals available to support this effort, including Cardno JFNew and Cardno ATC staff. Select staff will assist Mr. Stuedemann in completing the proposed tasks outlined in this scope of work.

PROJECT SCHEDULE

Cardno ENTRIX will proceed with the scope of work presented in this proposal immediately upon authorization from TranSystems. Cardno ENTRIX, however, will only proceed for the specific tasks authorized by TranSystems. Specific schedules for each task are unknown at this time and will be coordinated with TranSystems throughout the duration of the Gilmer Road at IL Route 120 Project. Wetland field investigations, wetland field meetings with LCSMC and USACE, and the final floristic quality assessment work must be completed during the Lake County growing season, from May 15th to October 1st, as required by the LCWDO. The schedule to complete each task is influenced by responses to requests for information through the Freedom of Information Act (FOIA) as well as the responses, concerns, and requests of TranSystems and the concerning agencies.

PROJECT COSTS

Cardno ENTRIX estimates the cost to complete tasks outlined in this proposal to be a maximum “not-to-exceed” fee of $94,048. An itemization of these costs is presented in Table 1, Cost Estimate for Consulting Services.

A summary of these costs are as follows:

Task	Costs
Task 1 – Wetland Survey	$33,103
Task 2 – Tree Survey	$31,881
2a Core Area	*$14,133*
2b Pick-up Area 1	*$8,276*
2c Pick-up Area 2	*$9,472*
Task 3 – Drain Tile Survey	$15,708
Task 4 – SWS	$3,762
Task 5 – PESA	$9,594
Total:	**$94,048**

Cardno ENTRIX will not proceed without written authorization from TranSystems for each task. Cardno ENTRIX will bill TranSystems on a time and material basis and will not exceed the estimated costs presented in this proposal without written authorization from TranSystems.

PROPOSAL ACCEPTANCE

To indicate your acceptance of this proposal, please contact me at 847-277-2866 or at baron.stuedemann@cardno.com to begin preparation of the Subcontract Agreement between TranSystems Corporation and Cardno ENTRIX for Professional Services. Cardno ENTRIX appreciates this opportunity to present environmental science and engineering services to TranSystems. If you have any questions, please do not hesitate to contact me.

Sincerely,

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

TABLE 1
Cost Estimate for Consulting Services

ENVIRONMENTAL SCIENCE AND ENGINEERING SERVICES
GILMER ROAD AT IL ROUTE 120 REALIGNMENT PROJECT

Prepared for TranSystems
Prepared by Cardno ENTRIX

March 21, 2012

GILMER ROAD AT IL ROUTE 120 PROJECT ENVIRONMENTAL SERVICES WORK ITEM DESCRIPTION	PROJECT MANAGER	LEAD BOTANIST	SENIOR SCIENTIST	PROJECT SCIENTIST	STAFF SCIENTIST	ADMIN. ASSISTANT	TOTAL HOURS	TOTAL LABOR COSTS	TOTAL DIRECT COSTS*	NOT-TO-EXCEED COSTS
Task 1 - Wetland Survey	48	8	48	110	94	16	324	$32,421	$682	$33,103
Task 2 - Tree Survey	56	8	32	96	88	12	292	$30,805	$1,076	$31,881
2a Core Area	*24*	*8*	*16*	*40*	*32*	*4*	*124*	*$13,651*	*$482*	*$14,133*
2b Pick-up Area 1	*16*	*0*	*8*	*24*	*24*	*4*	*76*	*$7,979*	*$297*	*$8,276*
2c Pick-up Area 2	*16*	*0*	*8*	*32*	*32*	*4*	*92*	*$9,175*	*$297*	*$9,472*
Task 3 - Drain Tile Survey	32	0	16	48	40	4	140	$15,186	$522	$15,708
Task 4 - Special Waste Screening (SWS)	8	0	0	16	0	4	28	$3,302	$460	$3,762
Task 5 - Preliminary Environmental Site Assessment (PESA)	16	0	0	40	16	16	88	$8,824	$770	$9,594
TOTAL:	160	16	96	310	238	52	872	$90,538	$3,510	$94,048

* Mileage = $1,110; Deliveries = $1,000; Copies = $600; Equipment = $200; EDR = $600

EXHIBIT C-3

SUBCONSULTANT SERVICES
Regina Webster & Associates

Project Scope

Manual and Machine Traffic Counts

Gilmer Road at Illinois Route 120, Illinois

CIVIL ENGINEERING CONSULTANTS
RWA
Regina Webster & Associates, Inc.

Data Collection

Working as a sub-consultant to TranSystems, Regina Webster & Associates, Inc. (RWA) will collect manual and machine counts, as follows:.

Manual Counts

RWA will collect manual intersection turning movement counts at the following eight locations:

1. Fisher Road at IL120,
2. Volo Village Road at IL120,
3. US12/ IL59 at IL120,
4. Gilmer Road at IL120,
5. Ellis Drive at IL120,
6. IL60 at IL120,
7. Volo Village Road at US12/ IL59, and
8. Ellis Drive at Gilmer Road.

The turning movement manual counts will be collected between 7:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM. The traffic will be classified in PCs, SUs and MUs.

Machine Counts

RWA will install machines to collect traffic volumes and classification at five segments, by direction, as follows:

1. IL120 between Fisher Road and Volo Village Road,
2. IL120 between Ellis Drive and IL60,
3. US12 – north of Volo Village Road,
4. Gilmer Road – south of Ellis Drive, and
5. US12 – south of IL120.

The machine counts will be collected for a period of 24-hour and the motorized traffic will be classified in PCs, SUs and MUs.

No traffic counts will be collected a day before, a day after or during a State or Federal holiday.

Project deliverables are the traffic count summaries in Excel format.

PAYROLL ESCALATION TABLE
FIXED RAISES

FIRM NAME Regina Webster & Associates, Inc. **DATE** 02/21/12
PRIME/SUPPLEMENT Traffic Counts **PTB NO.**

CONTRACT TERM	2 **MONTHS**	**OVERHEAD RATE**	150.00%
START DATE	4/1/2012	**COMPLEXITY FACTOR**	0
RAISE DATE	6/1/2012	**% OF RAISE**	3.00%

ESCALATION PER YEAR

4/1/2012 - 6/1/2012				
2				
2				

= 100.00%
= 1.0000

The total escalation for this project would be: **0.00%**

PAYROLL RATES

FIRM NAME Regina Webster & Asso **DATE** 02/21/12
PRIME/SUPPLEMENT Traffic Counts
PSB NO.

ESCALATION FACTOR 0.00%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
Principal	$70.00	$70.00
Project Manager	$50.00	$50.00
Project Engineer	$44.36	$44.36
QC/QA Engineer	$46.09	$46.09
Transportation Modeler	$36.00	$36.00
Engineer V	$37.50	$37.50
Engineer I	$25.75	$25.75
Field Technician 2	$18.46	$18.46
Field Technician 1	$14.01	$14.01
Senior Administrative	$27.52	$27.52
Administrative	$20.40	$20.40
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

DF-824-039
REV 12/04

FIRM Regina Webster & Associates, Inc. **DATE** 02/21/12

PSB

PRIME/SUPPLEMENT Traffic Counts **OVERHEAD RATE** 1.5

COMPLEXITY FACTOR 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	Outside Direct Costs (F)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
DBE	Manual Counts	126	2,290.48	3,435.72	1,428.00	847.48			8,001.68	8,001.68	61.08%
DBE	Machine Counts	46	944.70	1,417.05	204.00	349.54			2,915.29	2,915.29	22.25%
DBE	Report Prep	8	280.44	420.66		103.76			804.86	804.86	6.14%
DBE	PM & QC/QA	10	480.45	720.68		177.77			1,378.89	1,378.89	10.53%
	Subconsultant DL					0.00				0.00	0.00%
	TOTALS	190	3,996.07	5,994.11	1,632.00	1,478.55	0.00	0.00	13,100.72	**13,100.72**	100.00%

DBE 100.00%

DBE

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AVERAGE HOURLY PROJECT RATES

FIRM Regina Webster & Associates, Inc.
PSB
PRIME/SUPPLEMENT Traffic Counts

DATE 02/21/12

SHEET 1 OF 1

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Manual Counts			Machine Counts			Report Prep			PM & QC/QA					
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	70.00	0																	
Project Manager	50.00	5	2.63%	1.32										5	50.00%	25.00			
Project Engineer	44.36	12	6.32%	2.80	6	4.76%	2.11	2	4.35%	1.93	4	50.00%	22.18						
QC/QA Engineer	46.09	5	2.63%	1.21										5	50.00%	23.05			
Transportation Mode	36.00	0																	
Engineer V	37.50	0																	
Engineer I	25.75	18	9.47%	2.44	8	6.35%	1.63	6	13.04%	3.36	4	50.00%	12.88						
Field Technician 2	18.46	94	49.47%	9.13	56	44.44%	8.20	38	82.61%	15.25									
Field Technician 1	14.01	56	29.47%	4.13	56	44.44%	6.23												
Senior Administrative	27.52	0																	
Administrative	20.40	0																	
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TOTALS		190	100%	$21.03	126	100.00%	$18.18	46	100%	$20.54	8	100%	$35.06	10	100%	$48.05	0	0%	$0.00

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EXHIBIT C-4

SUBCONSULTANT SERVICES
Wang Engineering

Wang Engineering

1145 North Main Street
Lombard, Illinois 60148
Phone (630) 953-9928
www.wangeng.com

December 29, 2011

Mr. Jeffrey R. Hall, PE
Associate
Assistant Vice President
TranSystems
1475 East Woodfield Road, Suite 600
Schaumburg, IL 60173-5440

RE: Proposal - Geotechnical Engineering Services
Gilmer Road at IL120
Lake County, Illinois
Wang No. P111212

Dear Mr. Hall:

Wang Engineering, Inc. (Wang) is pleased to present our proposal to provide geotechnical engineering services for the proposed improvements to the Gilmer Road at IL120, in Lake County, Illinois. The following describes our proposed scope of work, cost estimate, and assumptions made in developing the cost estimate.

SCOPE OF WORK

Wang understands the improvements to the Gilmer Road at IL120 may include the following three items:

1. Conversion of the existing Gilmer at IL120 intersection to right-in-right-out and removal of the traffic signal, addition of a traffic signal at the Ellis at IL120 intersection, and addition of a free-flow right turn lane at the Gilmer at Ellis intersection;
2. Extension of Ellis from Gilmer to US12, addition of a traffic signal and turn lanes at the Ellis at US12 intersection, and the addition of a right turn lane at the Volo Village at US12 intersection; and
3. Extension of Ellis from US12 to IL120 and addition of a traffic signal and turn lanes at the Volo Village at IL120 intersection.

Pavement cores are needed along US12 (2), IL120 (2), Gilmer (2), Ellis (2), and Volo Village (3). Recommendations on the quality of the Ellis Road pavement for rerouting the Gilmer Road traffic are also required. For the latter task, we recommend collecting three (3) full-depth pavement cores and performing DCP testing at each coring location.

Roadway borings are needed for the widening along Gilmer to Ellis (5), widening on Volo Village at US12 (2), widening on Volo Village at IL120 (2), widening on IL120 at Volo Village (2), widening of US12 to outside NB and median at Ellis extension (6), extension of Ellis from

Gilmer to US12 (5), and extension of Ellis from US12 to IL120 (17). We recommend additional borings be drilled for delineating unsuitable/unstable subgrade along the proposed extensions of Ellis from Gilmer to US12 (4) and from US12 to IL120 (10).

A summary of the proposed scope of work is presented in the following table.

Item	Scope of Work	Roadway Borings	Pavement Cores
1	Gilmer at IL120 Intersection		1
	Ellis at IL120 Intersection		3
	Right turn lane for Gilmer at Ellis Intersection	5	2
	Ellis Road Pavement Assessment		3
	Subtotal 1	***5***	***9***
2	Ellis extension from Gilmer to US12	5	
	Ellis at US12 Intersection		1
	Turn lanes at the Ellis at US12 Intersection	6	
	Right turn lane for Volo Village at US12 Intersection	2	2
	Unstable/Unsuitable Subgrade Delineation	4	
	Subtotal 2	***17***	***3***
3	Ellis extension from US12 to IL120	17	
	Volo Village at IL120 Intersection		2
	Turn lanes for the Volo Village at IL120 Intersection	4	
	Unstable/Unsuitable Subgrade Delineation	10	
	Subtotal 3	**31**	**2**

We understand the County may authorize work on one or a combination of any of the above items.

The objectives of our geotechnical engineering services will be to define general subsurface soil and groundwater conditions, develop parameters for subgrade soil stability and deformation analyses, and provide geotechnical recommendations for roadway design and construction, including recommend necessary soil remediation options. To accomplish these objectives, Wang proposes the following tasks:

Desk Study and Site Visit: As per IDOT's "Geotechnical Manual" (1999), Wang will study and analyze existing roadway drawings, boring logs, and subsurface geological information to check for factors that might impact the proposed engineering works. Ground surface features, potential construction limitations and impacts on nearby structures, evidence of distress or deformation in the existing pavements, and signs of settlement will be examined during our site visit. We understand that boring locations approval and discussion of preliminary results will require two brief onsite meetings with County and TranSystems.

Geotechnical Drilling, Coring, and Sampling: Wang will provide equipment, labor, and associated materials to drill and sample roadway borings and collect pavement cores. The borings will be advanced with hollow stem augers. Soil samples will be collected with split barrel samplers according to AASHTO T 206, "Penetration Test and Split-Barrel Sampling of

Soils." Roadway borings will be sampled continuously. As necessary, Shelby tubes samples will be obtained according to AASHTO T 207, “Thin-Walled Sampling of Soils.” IDOT permits and traffic control may be required to gain access to the drilling locations and during drilling operations, respectively; in our cost estimate, we included provisions for both items.

Field Supervision: Prior to the start of the investigation, Wang will locate and stake the borings in the field and coordinate the location of all utilities with respect to the proposed boring locations. A Wang field engineer will monitor drilling activities and maintain field notes. The field engineer will also perform penetrometer and/or Rimac unconfined compressive strength tests on cohesive soil samples; he will also monitor the groundwater level in boreholes. The planned boring locations will be staked and the as-drilled northing and easting locations will be surveyed by Wang using a mapping-grade GPS unit. We understand that boring elevations will be surveyed by TranSystems.

Laboratory Testing: After boring completion, the soil samples will be transported to our IDOT- and AMRL-certified laboratory in Lombard, Illinois. The soil testing program will include natural moisture content (AASHTO T 265), Atterberg Limits (T 89 and T 90), particle size analyses (T 88), organic content (T 194), one-dimensional consolidation (T 216), and unconfined compressive strength (T 208).

Engineering Analyses, Recommendations, and Reporting: A geotechnical report will be prepared for the entire project. The reports will include a site location map, a boring and coring location plan, boring logs, soil profile, laboratory test results, a description of the subsurface investigation methods, and an assessment of the site soil and groundwater conditions. The report will provide recommendations for pavement design, subgrade treatment and/or improvement, and suitability of insitu soils as backfill materials. We understand that TranSystems will provide the plan and profile drawings we will need to produce the soil profile.

SCHEDULING

Wang will start the project expediently upon prior written authorization to proceed. Depending on the final scope of work, we estimate the site visit and boring layout will require one to two working days. The subsurface investigation will require one to nine working days. The laboratory testing program will be completed within two weeks after the subsurface investigation. A draft report will be submitted for review within three weeks after receiving design and plan and profile drawings.

ESTIMATED COST AND ASSUMPTIONS

Our cost estimate was prepared assuming the following conditions:

- The site is accessible to an ATV-mounted drill rig and traffic control may be required during drilling operations;
- Costs associated with surveying the as-drilled boring locations, other than using a hand-held GPS, are not included;

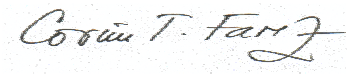
- Our drill operators will be paid prevailing wages;
- Fees related to accessing difficult drilling locations, such as tree clearing and private utility locators, are limited to $3,000 as shown in the attached direct cost estimate;
- Additional insurance, beyond our standard coverage, is not included in the cost estimate; if required, it will be considered a reimbursement item;
- Other than IDOT permits, no other site access agreements are necessary; and
- No hazardous materials will be encountered.

Wang will provide these services according to the attached cost estimate.

Wang Engineering, Inc. appreciates the opportunity to present this proposal. If you have questions, or if you require additional information, please contact us at (630) 953-9928.

Sincerely,

WANG ENGINEERING, INC.



Corina T. Farez, P.E., P.G.
Vice President

Liviu-Mircea Iordache, P.G.
Geotechnical Department Manager

PAYROLL ESCALATION TABLE
FIXED RAISES

FIRM NAME Wang Engineering, Inc.
PRIME/SUPPLEMENT Prime

DATE 12/29/11
PTB NO. NA

CONTRACT TERM	6	**MONTHS**	**OVERHEAD RATE**	171.56%
START DATE	12/30/2011		**COMPLEXITY FACTOR**	0
RAISE DATE	1/1/2012		**% OF RAISE**	3.00%

ESCALATION PER YEAR

12/30/2011 - 1/1/2012	1/2/2012 - 7/1/2012			
0	6			
6	6			

= 0.00% 103.00%
= 1.0300

The total escalation for this project would be: **3.00%**

PAYROLL RATES

FIRM NAME Wang Engineering, Inc. **DATE** 12/29/11
PRIME/SUPPLEMENT Prime
PSB NO. NA

ESCALATION FACTOR 3.00%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
Principal in Charge	$57.59	$59.32
Project Manager	$45.89	$47.27
Senior Engineer	$45.89	$47.27
Project Engineer	$29.36	$30.24
Staff Engineer	$29.36	$30.24
Field Engineer	$29.36	$30.24
Senior Field Inspector	$28.80	$29.66
Field Inspector	$21.51	$22.16
Laboratory Technician	$16.63	$17.13
Project Administrative Assistant	$21.25	$21.89
QC/QA Reviewer	$24.04	$24.76
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00
		$0.00

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Subconsultants

FIRM NAME **Wang Engineering, Inc.** **DATE** **12/29/11**
PRIME/SUPPLEMENT **Prime**
PSB NO. **NA**

NAME	Direct Labor Total	Contribution to Prime Consultant
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
Total	0.00	0.00

Method of Compensation:		
Cost Plus Fixed Fee 1	X	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	☐	

DF-824-039
REV 12/04

COST PLUS FIXED FEE
COST ESTIMATE OF CONSULTANT SERVICES

FIRM Wang Engineering, Inc. **DATE** 12/29/11

PSB NA **OVERHEAD RATE** 1.7156

PRIME/SUPPLEMENT Prime **COMPLEXITY FACTOR** 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	Outside Direct Costs (F)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
DBE	Geotechnical Item 1	57	1,881.32	3,227.60		740.79	7,437.00		13,286.72	13,286.72	17.68%
DBE	Geotechnical Item 2	108	3,274.76	5,618.18		1,289.48	13,828.80		24,011.21	24,011.21	31.95%
DBE	Geotechnical Item 3	166	4,943.94	8,481.83		1,946.74	22,488.40		37,860.91	37,860.91	50.37%
	Subconsultant DL					0.00				0.00	0.00%
	TOTALS	331	10,100.03	17,327.60	0.00	3,977.01	43,754.20	0.00	75,158.84	**75,158.84**	100.00%

DBE 100.00%

PREPARED BY THE AGREEMENTS UNIT

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AVERAGE HOURLY PROJECT RATES

FIRM Wang Engineering, Inc.
PSB NA
PRIME/SUPPLEMENT Prime

DATE 12/29/11

SHEET 1 OF 5

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			Geotechnical Item 1			Geotechnical Item 2			Geotechnical Item 3								
		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 in Charge	59.32	3	0.90%	0.54	1	1.75%	1.04	1	0.93%	0.55	1	0.60%	0.36						
Project Manager	47.27	21	6.33%	2.99	7	12.28%	5.80	7	6.48%	3.06	7	4.22%	1.99						
Senior Engineer	47.27	39	11.75%	5.55	8	14.04%	6.63	13	12.04%	5.69	18	10.84%	5.13						
Project Engineer	30.24	42	12.65%	3.83	8	14.04%	4.24	14	12.96%	3.92	20	12.05%	3.64						
Staff Engineer	30.24	70	21.08%	6.38	10	17.54%	5.30	20	18.52%	5.60	40	24.10%	7.29						
Field Engineer	30.24	18	5.42%	1.64	4	7.02%	2.12	6	5.56%	1.68	8	4.82%	1.46						
Senior Field Inspector	29.66	18	5.42%	1.61	4	7.02%	2.08	6	5.56%	1.65	8	4.82%	1.43						
Field Inspector	22.16	90	27.11%	6.01	10	17.54%	3.89	30	27.78%	6.15	50	30.12%	6.67						
Laboratory Technician	17.13	15	4.52%	0.77	1	1.75%	0.30	6	5.56%	0.95	8	4.82%	0.83						
Project Administrative Assistant	21.89	9	2.71%	0.59	3	5.26%	1.15	3	2.78%	0.61	3	1.81%	0.40						
QC/QA Reviewer	24.76	7	2.11%	0.52	1	1.75%	0.43	2	1.85%	0.46	4	2.41%	0.60						
		0																	
		0																	
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TOTALS		332	100%	$30.42	57	100.00%	$33.01	108	100%	$30.32	166	101%	$29.78	0	0%	$0.00	0	0%	$0.00

WANG ENGINEERING, INC.
DIRECT COST ESTIMATE
FOR
GEOTECHNICAL INVESTIGATIONS

Wang Job P111212
Date 12/29/2011

FIELD INVESTIGATION

Item	Task Description	Units	Unit Price	Extended Cost
1	Drilling Coordination	1 Hrs.	$90.00 /Hour	$90.00
	Mobilization (Truck Mounted Drill Rig)	1 Each	$700.00 /Each	$700.00
	Drilling Crew Daily Travel & Support Vehicle	0 Days	$145.00 /Day	$0.00
	Stand-By/Hourly Rates - Drill Mounted on Truck (Two-Man Crew & Equipment)	0 Hrs.	$300.00 /Hour	$0.00
	Roadway Borings (5)			
	Drilling including split spoon sampling @ 2.0 feet continuous sampling to 10' (SPT, Penetrometer, Visual Classification Included)			
	Continuous Sampling			
	Normal Hours	50 Feet	$28.50 /Foot	$1,425.00
	Restricted Hours (6 Hrs)	0 Feet	$31.50 /Foot	$0.00
	Pavement Coring and DCP Testing (9)			
	For 2-inch, 4-inch, and 6-inch diameter pavement cores			
	Two-Man Crew and Equipment			
	Normal Working Hours	10 Hours	$250.00 /Hour	$2,500.00
	Restricted Hours (6 Hrs)	0 Hours	$300.00 /Hour	$0.00
	Borehole Abandonment and Surface Restoration			
	Pavement Patching			
	Asphalt	3 No.	$15.00 /Each	$45.00
	Soil Cutting Removal	2 Hrs	$300.00 /Hour	$600.00
	Traffic Control			
	Shoulder Closure (1/2 mile)			
	Daytime	0 No.	$800.00 /Each	$0.00
	Lane Closure (1 lane) (1/2 mile)			
	Daytime	1 No.	$1,300.00 /Each	$1,300.00
	Boring Location Accessibility			
	Private Utility Locator, Tree Clearance	Lump Sum		$0.00
	Field Vehicle			
	Field Vehicle Mileage (>100 Miles per Day)	0 Miles	$0.50 /Mile	$0.00
	Field Vehicle Daily (<100 Miles per Day)	4 Days	$45.00 /Day	$180.00

LABORATORY TESTING

AASHTO	ASTM	Task Description	Units	Unit Price	Extended Cost
Soil Index Tests					
T265	D2216	Water Content	20 Tests	$6.60 /test	$132.00
T194	--	Organic Content by Wet Combustion	1 Tests	$115.00 /test	$115.00
Particle Size Distribution					
T88	D422	Combined Sieve and Hydrometer	2 Tests	$108.00 /test	$216.00
Atterberg Limits					
T89, T90	D4318	Liquid and Plastic Limits	2 Tests	$67.00 /test	$134.00
					$0.00
				Item 1 Total =	**$7,437.00**

WANG ENGINEERING, INC.
DIRECT COST ESTIMATE
FOR
GEOTECHNICAL INVESTIGATIONS

FIELD INVESTIGATION

Item	Task Description	Units	Unit Price	Extended Cost
2	Drilling Coordination	2 Hrs.	$90.00 /Hour	$180.00
	Mobilization (ATV Mounted Drill Rig)	2 Each	$1,150.00 /Each	$2,300.00
	ATV Mounted Drill Rig Daily Charge	3 Days	$275.00 /Day	$825.00
	Drilling Crew Daily Travel & Support Vehicle	3 Days	$145.00 /Day	$435.00
	Stand-By/Hourly Rate - Drill Mounted on ATV	0 Hrs.	$300.00 /Hour	$0.00
	Roadway Borings (17)			
	Drilling including split spoon sampling @ 2.0 feet continuous sampling to 10'			
	(SPT, Penetrometer, Visual Classification Included)			
	Continuous Sampling			
	Normal Hours	170 Feet	$28.50 /Foot	$4,845.00
	Restricted Hours (6 Hrs)	0 Feet	$31.50 /Foot	$0.00
	Shelby Tube Borings			
	Drilling with Shelby Tube samples at selected depths			
	Drill without sampling			
	Normal Working Hours	20 Feet	$18.50 /Foot	$370.00
	Restricted Hours (6 Hrs)	0 Feet	$23.50 /Foot	$0.00
	Shelby Tube Samples			
	Normal Working Hours	2 Feet	$55.00 /Each	$110.00
	Restricted Hours (6 Hrs)	0 Feet	$64.00 /Each	$0.00
	Pavement Coring (3)			
	For 2-inch, 4-inch, and 6-inch diameter pavement cores			
	Two-Man Crew and Equipment			
	Normal Working Hours	3 Hours	$250.00 /Hour	$750.00
	Restricted Hours (6 Hrs)	0 Hours	$300.00 /Hour	$0.00
	Borehole Abandonment and Surface Restoration			
	Pavement Patching			
	Asphalt	2 No.	$15.00 /Each	$30.00
	Soil Cutting Removal	2 Hrs	$300.00 /Hour	$600.00
	Traffic Control			
	Shoulder Closure (1/2 mile)			
	Daytime	0 No.	$800.00 /Each	$0.00
	Lane Closure (1 lane) (1/2 mile)			
	Daytime	1 No.	$1,300.00 /Each	$1,300.00
	Boring Location Accessibility			
	Private Utility Locator, Tree Clearance	Lump Sum		$0.00
	Field Vehicle			
	Field Vehicle Mileage (>100 Miles per Day)	0 Miles	$0.50 /Mile	$0.00
	Field Vehicle Daily (<100 Miles per Day)	8 Days	$45.00 /Day	$360.00

LABORATORY TESTING

AASHTO	ASTM	Task Description	Units	Unit Price	Extended Cost
Soil Index Tests					
T265	D2216	Water Content	68 Tests	$6.60 /test	$448.80
T194	--	Organic Content by Wet Combustion	2 Tests	$115.00 /test	$230.00
Particle Size Distribution					
T88	D422	Combined Sieve and Hydrometer	3 Tests	$108.00 /test	$324.00
Atterberg Limits					
T89, T90	D4318	Liquid and Plastic Limits	3 Tests	$67.00 /test	$201.00
Soil Settlement, Swelling, and Collapse Potential					
T216	D2435	One-Dimensional Consolidation	1 Tests	$450.00 /test	$450.00
Shear Strength of Soil					
T208	D2166	Unconfined Compressive Strength	1 Tests	$70.00 /test	$70.00
				Item 2 Total =	**$13,828.80**

WANG ENGINEERING, INC.
DIRECT COST ESTIMATE
FOR
GEOTECHNICAL INVESTIGATIONS

FIELD INVESTIGATION

Item	Task Description	Units	Unit Price	Extended Cost
3	Drilling Coordination	2 Hrs.	$90.00 /Hour	$180.00
	Mobilization (ATV Mounted Drill Rig)	1 Each	$1,150.00 /Each	$1,150.00
	ATV Mounted Drill Rig Daily Charge	5 Days	$275.00 /Day	$1,375.00
	Drilling Crew Daily Travel & Support Vehicle	5 Days	$145.00 /Day	$725.00
	Stand-By/Hourly Rate - Drill Mounted on ATV	0 Hrs.	$300.00 /Hour	$0.00
	Roadway Borings (31)			
	Drilling including split spoon sampling @ 2.0 feet continuous sampling to 10'			
	(SPT, Penetrometer, Visual Classification Included)			
	Continuous Sampling			
	Normal Hours	310 Feet	$28.50 /Foot	$8,835.00
	Restricted Hours (6 Hrs)	0 Feet	$31.50 /Foot	$0.00
	Shelby Tube Borings			
	Drilling with Shelby Tube samples at selected depths			
	Drill without sampling			
	Normal Working Hours	60 Feet	$18.50 /Foot	$1,110.00
	Restricted Hours (6 Hrs)	0 Feet	$23.50 /Foot	$0.00
	Shelby Tube Samples			
	Normal Working Hours	6 Feet	$55.00 /Each	$330.00
	Restricted Hours (6 Hrs)	0 Feet	$64.00 /Each	$0.00
	Pavement Coring (2)			
	For 2-inch, 4-inch, and 6-inch diameter pavement cores			
	Two-Man Crew and Equipment			
	Normal Working Hours	2 Hours	$250.00 /Hour	$500.00
	Restricted Hours (6 Hrs)	0 Hours	$300.00 /Hour	$0.00
	Borehole Abandonment and Surface Restoration			
	Pavement Patching			
	Asphalt	2 No.	$15.00 /Each	$30.00
	Soil Cutting Removal	1 Hrs	$300.00 /Hour	$300.00
	Traffic Control			
	Shoulder Closure (1/2 mile)			
	Daytime	1 No.	$800.00 /Each	$800.00
	Lane Closure (1 lane) (1/2 mile)			
	Daytime	0 No.	$1,300.00 /Each	$0.00
	Boring Location Accessibility			
	Private Utility Locator, Tree Clearance	Lump Sum		$3,000.00
	Field Vehicle			
	Field Vehicle Mileage (>100 Miles per Day)	0 Miles	$0.50 /Mile	$0.00
	Field Vehicle Daily (<100 Miles per Day)	11 Days	$45.00 /Day	$495.00

LABORATORY TESTING

AASHTO	ASTM	Task Description	Units	Unit Price	Extended Cost
Soil Index Tests					
T265	D2216	Water Content	124 Tests	$6.60 /test	$818.40
T194	--	Organic Content by Wet Combustion	2 Tests	$115.00 /test	$230.00
Particle Size Distribution					
T88	D422	Combined Sieve and Hydrometer	6 Tests	$108.00 /test	$648.00
Atterberg Limits					
T89, T90	D4318	Liquid and Plastic Limits	6 Tests	$67.00 /test	$402.00
Soil Settlement, Swelling, and Collapse Potential					
T216	D2435	One-Dimensional Consolidation	3 Tests	$450.00 /test	$1,350.00
Shear Strength of Soil					
T208	D2166	Unconfined Compressive Strength	3 Tests	$70.00 /test	$210.00
				Item 3 Total =	**$22,488.40**

EXHIBIT D

SURVEY PROCEDURES

SURVEY PROCEDURES (Revised 4/21/08)

UNITS-COORDINATES

The CONSULTANT will conduct all surveying, stationing, and preparation of required plans using English units of measure and the U.S. Survey Foot. State Plane Coordinates – Illinois East Zone, NAD 83 shall be obtained for all alignment and survey control points.

HORIZONTAL ALIGNMENT

Unless otherwise specified in the services contract, the CONSULTANT is to provide the horizontal alignment. 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 and benchmarks before establishing the horizontal alignment and stationing. 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 LCDOT's Surveyor can locate them later for construction staking. The CONSULTANT'S SURVEYOR will provide four reference ties to all U.S. Public Land Survey Monuments located within the construction limits. The reference points should be located outside of the anticipated construction limits if practical, so that they can be used after construction to replace the monuments. The CONSULTANT shall record Monument Records for all Section and Quarter Section corners set or found within the construction limits.

The CONSULTANT will mark all 100-foot interval station locations on the survey base line for construction, when on paved surfaces with a P.K. or Mag nail and spray paint. The baseline for relocated alignments when off pavement will be marked at 100-foot intervals 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 will be indicated on the Alignment and Tie sheet.

An Alignment and Tie Sheet shall be provided as part of the final product. The Alignment and Tie sheet shall be signed and sealed by the CONSULTANT'S SURVEYOR. The station, offset and coordinates of the alignment points and survey control points shall be shown. It shall be noted whether the coordinates, stationing and distances are State Plane grid or ground surface. In the case that the information shown is ground surface distances, the State Plane Coordinates still must also be shown for all alignment points and survey control points in order that they can be located with GPS and so that the project can be referenced into our GIS maps. The coordinates may be

shown in a separate table. In either case the grid (combination) factor must also be shown.

VERTICAL ALIGNMENT

Vertical control for the project shall be based on NGVD 29 or NAVD 88 benchmarks. Indicate on the plans which Datum is used. NGVD 29 Lake County Mapping Benchmarks are preferred (http://gis.lakeco.org/maps/). LCDOT's Land Surveyor may also be contacted for benchmarks that may be in the area. The controlling benchmarks and the site benchmarks shall be described on the plans. Site benchmarks are to be located at less than 1000-foot intervals with a minimum of two (2) on each project.

All benchmarks will be located on stable objects. LCDOT prefers these objects to be outside the construction site. Some acceptable benchmark examples are, spikes in poles, bolts on fire hydrant rings, and concrete foundations. LCDOT's surveyor can be contacted for benchmarks that may be in the area.

TOPOGRAPHY

The CONSULTANT shall cut cross sections at 50-foot intervals in urban areas (100-foot intervals in rural areas) and at all points needing clarification. 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 will 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 ROW or construction limits (whichever is greater). Cross sections will extend 30 feet beyond the proposed R.O.W. at entrances 150 feet at minor side roads.

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 ROW. Usually this includes obtaining a permit, paying a fee, obtaining Railroad Protective Liability Insurance, notification of a flagman to be present near the rails during the survey operations and any other requirements of the railroad. The CONSULTANT is responsible for all of the foregoing requirements.

DELIVERABLES

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

II. Base Drawing at 1:1. All the topographic information shall be plotted electronically. The data shall be recorded in a MICROSTATION .DGN format. All line work defining different elements shall be completed using LCDOT's CELL and LINE LIBRARIES (see attachment). ASCII files containing all point information as described below shall be included. Backup CD's or diskettes shall be provided.

III. SUMMARY SHEETS showing:

(1) Point number
(2) Point identification by code and description
(3) Station
(4) Distance offset (right or left)
(5) Northing and Easting coordinate values
(6) "Z" elevations

* Four computer printouts shall be provided:

1. List of points referenced by stations.
2. List of points referenced by sequential point numbering.
3. List of points sorted by point identification.
4. "ID" acronym explanation sheets.

An example showing the different printouts is shown on the next page.

(LCDOT'S IDENTIFICATION CODES SHALL BE USED – see attachment)

TYPICAL PRINT-OUT FORM (EAMPLE)

BY POINT NUMBERS

POINT NUMBER	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DEFINITION CODE (1)	DESCRIPTION PD	MATERIAL CODE (1)
3331	104+23.306	-45.869	10313.993	20392.255	207.495	491.10	10 INCH TREE PINE	0
3332	104+50.475	-49.159	10323.810	20416.938	207.743	668	PAVEMENT EDGE	759
3333	104+69.987	-44.270	10261.604	20452.162	207.126	310	FL W/GRATE	774
3334	103+93.865	+40.590	10297.779	20365.781	207.378	304.15	6 INCH TILE	836

BY STATION

STATION	POINT NUMBER	OFFSET	NORTHING	EASTING	ELEVATION	DEFINITION CODE (1)	DESCRIPTION PD	MATERIAL CODE (1)
103+93.865	3334	+40.590	10297.779	20365.781	207.378	304.15	6 INCH TILE	836
104+23.306	3331	-45.869	10313.993	20392.255	207.495	491.10	10 INCHTREE PINE	0
104+50.475	3332	-49.159	10323.810	20416.938	207.743	668	PAVEMENT EDGE	759
104+69.987	3333	-44.270	10261.604	20452.162	207.126	310	FL W/GRATE	774

BY POINT DESCRIPTION

POINT NUMBER	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DEFINITION CODE (1)	DESCRIPTION PD	MATERIAL CODE (1)
3331	104+23.306	+40.590	10297.779	20365.781	207.378	304.15	6 INCH TREE PINE	0
3336	104+50.475	-45.869	10313.993	20392.255	207.495	491.10	10 INCHTREE PINE	0
2323	104+69.987	-49.159	10323.810	20416.938	207.743	668	6 INCH TREE OAK	0
2565	103+93.865	-44.270	10261.604	20452.162	207.126	310	5 INCH TREE OAK	0

(1) LCDOT CODES

LCDOT's Land Surveyor:

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