



West Virginia Purchasing Division

2019 Washington Street, East
Charleston, WV 25305
Telephone: 304-558-2306
General Fax: 304-558-6026
Bid Fax: 304-558-3970

The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header

List View

General Information | Contact | Default Values | Discount | Document Information

Procurement Folder: 188928

SO Doc Code: CRFQ

Procurement Type: Central Master Agreement

SO Dept: 0313

Vendor ID: 000000160928

SO Doc ID: DEP1600000054

Legal Name: CIVIL & ENVIRONMENTAL CONSULTANTS INC

Published Date: 6/15/16

Alias/DBA:

Close Date: 6/21/16

Total Bid: \$168,665.00

Close Time: 13:30

Response Date: 06/21/2016

Status: Closed

Response Time: 12:37

Solicitation Description: Addendum No. 01-Mapping Services in Northern WV

Total of Header Attachments: 0

Total of All Attachments: 0



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

**State of West Virginia
 Solicitation Response**

Proc Folder : 188928

Solicitation Description : Addendum No. 01-Mapping Services in Northern WV

Proc Type : Central Master Agreement

Date issued	Solicitation Closes	Solicitation No	Version
	2016-06-21 13:30:00	SR 0313 ESR06211600000006205	1

VENDOR

000000160928
 CIVIL & ENVIRONMENTAL CONSULTANTS INC

FOR INFORMATION CONTACT THE BUYER

Beth Collins
 (304) 558-2157
 beth.a.collins@wv.gov

Signature X **FEIN #** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Control Surveying	600.00000	HOUR	\$65.000000	\$39,000.00

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description : (Spec Item 3.1.1.2 & 4.2)

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Topographic, Planimetric and Check Surveying	1800.00000	HOUR	\$65.000000	\$117,000.00

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description : (Spec Item 3.1.1.3 & 4.2)

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Topographic Mapping - (0-25 Acres)	15.00000	ACRE	\$180.000000	\$2,700.00

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description : (Spec Item 3.2 & 4.2)

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Topographic Mapping - (25-50 Acres)	30.00000	ACRE	\$103.000000	\$3,090.00

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description : (Spec Item 3.2 & 4.2)

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	Topographic Mapping - (50-100 Acres)	75.00000	ACRE	\$45.000000	\$3,375.00

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description : (Spec Item 3.2 & 4.2)

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
6	Topographic Mapping - (Over 100 Acres)	125.00000	ACRE	\$28.000000	\$3,500.00

Comm Code	Manufacturer	Specification	Model #
81151601			

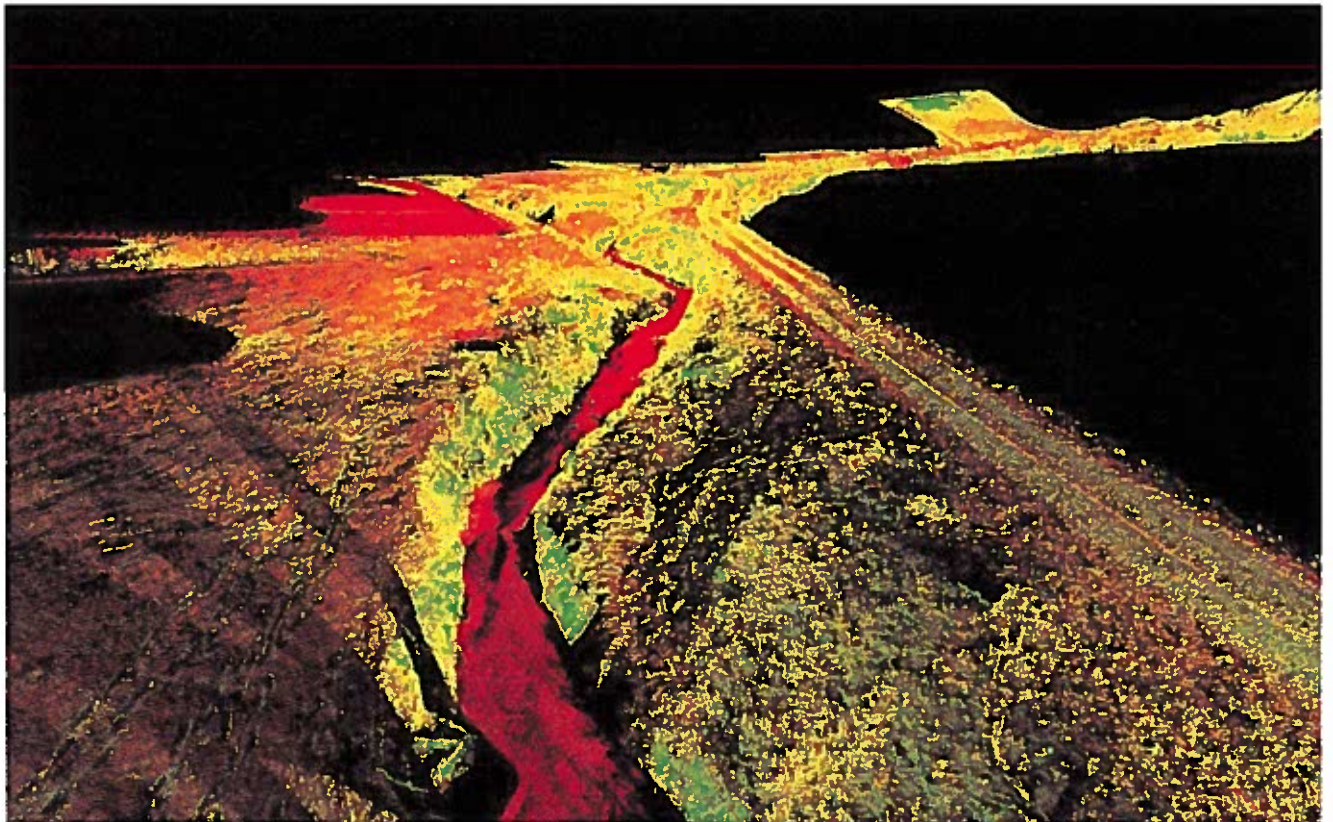
Extended Description : (Spec Item 3.2 & 4.2)



Request for Quotation

Civil & Environmental Consultants, Inc.

Mapping Services in Northern West Virginia
Purchase Order No. DEP160000054



Submitted To:
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS
601 57th Street, SE – Box 20
Charleston, West Virginia 25304-2345

June 21, 2016

Senior Leadership
Integrated Services
Personal Business Relationships

www.cecinc.com

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ATTACHMENTS:

- A. CEC Corporate and Personnel Mapping Projects
- B. CEC Resumes of Key Personnel
- C. CEC Company Information



June 21, 2016

Ms. Beth Collins, Purchasing Division Buyer
West Virginia Purchasing Division
2019 Washington Street East
P.O. Box 50130
Charleston, West Virginia 25305-0130

Dear Ms. Collins:

Subject: Mapping Services in Northern West Virginia (Open-End), P.O. Number CRFQ 0313 DEP1600000054 – CEC Project 153-325

Please find attached a cost proposal for Civil & Environmental Consultants, Inc. (CEC) to perform Mapping Services in Northern West Virginia for the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands (WVAML). CEC is a 775 member engineering company with offices in Bridgeport, West Virginia and Pittsburgh, Pennsylvania.

Founded in 1988, CEC routinely provides surveying and mapping services to governmental agencies, private clients, and corporations. From 2008 to 2011 CEC personnel provided surveying and mapping services to the WVDEP on thirty four (34) northern AML West Virginia sites totaling over 4,800 acres. From 2008 to 2011 CEC personnel provided surveying and mapping services to the WVDEP on fifty one (51) southern West Virginia AML sites totaling over 4,100 acres, And from 2011 to 2012 CEC personnel provided surveying and mapping services to the WVDEP on seventeen (17) southern AML West Virginia sites totaling over 1,800 acres. CEC recognized the advantages and importance of LIDAR collection and provided LIDAR collection along with aerial photography even though the WVDEP did not request LIDAR collection for these projects. Please refer to Attachment A for a more complete list of projects completed by CEC and personnel.

CEC’s personnel in the Bridgeport, West Virginia office will perform all required work for this Project. The names of the individuals involved with the Project are:

Table 1: CEC personnel for the Mapping Services Project in the Northern WV counties

Name	Registration / Year / Registration Number	Years of Experience
Randy Calkins*	WV Registered Professional Surveyor / #627	36
Dennis Miller	WV Registered Professional Surveyor / #991	28
Jason Littler	WV Registered Professional Surveyor / #2139	20
Rick Adams	WV Registered Professional Surveyor / #986	28

*As Needed

Ms. Beth Collins
CEC Project 153-325
Page 2
June 21, 2016

We will utilize the necessary staff and resources to complete any work in an efficient, timely, and professional manner. The field survey crews will be under the direct supervision of Mr. Jason H. Littler, P.S., Project Manager who will ensure the Projects are managed on a day to day basis and that all projects are completed on-time and in-budget. The AML Coordinator for the Projects will be Mr. Dennis E. Miller, P.S. Please refer to Attachment B for resumes of key personnel. CEC has thirteen (13) survey grade GPS units, three (3) total station survey instruments, and one (1) robotic total station that meets or exceeds accuracies outlined in the specifications. CEC has one (1) ground based LIDAR scanner and one (1) unmanned aerial vehicle that can be used on any assigned projects on an as needed basis.

For aerial photography and LIDAR services, CEC will use GRW as a sub-consultant. CEC has used GRW on many different surveying and engineering projects located throughout West Virginia, Ohio, and Pennsylvania for aerial mapping services. Using the latest aerial photographic and LIDAR equipment, the sub-consultant will provide precision aerial photography and digital topographic mapping services meeting the WVDEP AML requirements for both colored and black and white aerial photography.

We are very excited about the opportunity to continue our working relationship with the West Virginia Department of Environmental Protection and look forward to providing mapping services on this most important project. We believe no other company can meet our quality of work, which, when coupled with our experience, allows us to be more efficient and therefore very cost competitive. Our Bridgeport office is centrally located in the northern coal fields and has successfully and economically completed numerous surveying and mapping projects in northern West Virginia; and will respond quickly, effectively, and in the most economical way. If chosen, our primary objective will be to address WVAML needs complimented by other professionals in varying fields of expertise available on an "as needed" basis from our pool of over 775 professionals in Surveying and Mapping, Civil and Site Engineering, Geotechnical Engineering, and Construction.

Should any questions arise, or if we can supply additional information or be of further service to you, the Purchasing Division, or the West Virginia Department of Environmental Protection please contact me anytime at 304-933-3119

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.


Jason H. Littler, P.S., Project Manager
Tel: (304) 933-3119
Fax: (304) 933-3327
jlittler@cecinc.com


Dennis E. Miller, P.S., Vice President
Tel: (304) 933-3119
Fax: (304) 933-3327
dmiller@cecinc.com

WV Oasis Electronic Submittal:

**Mapping Services in Northern West Virginia,
P.O. No. CRFQ 0313 DEP1600000054**



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Request for Quotation
 27 - Miscellaneous

Proc Folder: 188928

Doc Description: Addendum No. 01-Mapping Services in Northern WV

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2016-06-15	2016-06-21 13:30:00	CRFQ 0313 DEP1600000054	2

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Name, Address and Telephone Number:

CIVIL & ENVIRONMENTAL CONSULTANTS INC.
 600 MARKET PLACE AVE. Suite 200
 BRIDGEPORT, WEST VIRGINIA 26330
 304-933-3119

TOTAL = \$ 168,665

FOR INFORMATION CONTACT THE BUYER

Beth Collins
 (304) 558-2157
 beth.a.collins@wv.gov

Signature X

FEIN #

25-1599565

DATE

June 21st 2016

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

Addendum

Addendum No.01 issued to publish and distribute the attached information to the vendor community.

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV 25304

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Control Surveying	600.00000	HOUR	65	\$ 39,000

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.1.1.2 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV 25304

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Topographic, Planimetric and Check Surveying	1800.00000	HOUR	65	\$ 117,000

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.1.1.3 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV 25304

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	Topographic Mapping - (0-25 Acres)	15.00000	ACRE	\$ 180	\$ 2,700

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.2 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV 25304

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	Topographic Mapping - (25-50 Acres)	30.00000	ACRE	\$ 103	\$ 3,090

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.2 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV 25304

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	Topographic Mapping - (50-100 Acres)	75.00000	ACRE	\$ 45	\$ 3,375

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.2 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV25304 US		ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
6	Topographic Mapping - (Over 100 Acres)	125.00000	ACRE	\$ 28	\$ 3,500

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.2 & 4.2)

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Tech Question Deadline at 5:00 PM, EST	2016-06-03

DEP1600000054	Document Phase Final	Document Description Addendum No. 01-Mapping Services in Northern WW	Page 5 of 5
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

SOLICITATION NUMBER: CRFQ 0313 DEP1600000054

Addendum Number: No.01

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- Modify bid opening date and time
- Modify specifications of product or service being sought
- Attachment of vendor questions and responses
- Attachment of pre-bid sign-in sheet
- Correction of error
- Other

Description of Modification to Solicitation:

Addendum issued to publish and distribute the attached documentation to the vendor community.

1. The purpose of this addendum is to answer technical questions received.

No other Changes.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

CRFQ 0313 DEP1600000054 Version 1 Mapping Services in Northern WV

Addendum 1

1. **Question:** In Section 3.2.1.3 LiDAR of the RFQ LiDAR is mentioned, but there is no line item or bidding. Is LiDAR a requirement?

Answer: No. Method of data acquisition is at the discretion of the mapping services contractor.

2. **Question:** In Section 3.2.1.1 Topographic Mapping mentions imagery but there is no line item as in past mapping contracts? Is imagery required as a deliverable?

Answer: No.

3. **Question:** In Section 3.3 Mapping Consultant Qualifications Requirements, a Professional Surveyor is mentioned. There is no line item for bidding. Is this a required item?

Answer: The Professional Surveyor is required to stamp drawings per the RFQ. This cost should be included in the product.

4. **Question:** In Section 3.3 Mapping Consultant Qualifications Requirements Professional Drafting is mentioned. There is no line item for bidding. Is this a required item?

Answer: This is at the discretion of the Professional Surveyor who is in responsible charge of the product.

ADDENDUM ACKNOWLEDGEMENT FORM

SOLICITATION NO.: DEP 16000000-54

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Civil + Environmental Consultants
Company

Steven G. Cain
Authorized Signature

6-21-16
Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.
Revised 6/8/2012

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Civil & Environmental Consultants Inc.

Authorized Signature: [Signature] Date: June 21st 2016

State of West Virginia

County of Harrison, to-wit:

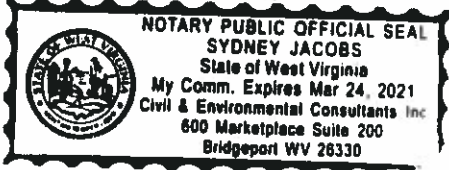
Taken, subscribed, and sworn to before me this 21 day of June, 2016.

My Commission expires March 24th, 2021.

AFFIX SEAL HERE

NOTARY PUBLIC [Signature: Sydney Jacobs]

Purchasing Affidavit (Revised 07/01/2012)



ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

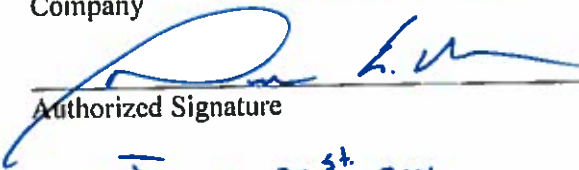
Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

CIVIL & ENVIRONMENTAL CONSULTANTS INC.
Company


Authorized Signature

JUNE 21st 2016
Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Request for Quotation
 27 - Miscellaneous

Proc Folder: 188928

Doc Description: Mapping Services in Northern West Virginia (Open-End)

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2016-05-19	2016-06-21 13 30:00	CRFQ 0313 DEP1600000054	1

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Name, Address and Telephone Number:

See Addendum No 1

FOR INFORMATION CONTACT THE BUYER

Beth Collins
 (304) 558-2157
 beth.a.collins@wv.gov

Signature X

FEIN # *25-1599565*

DATE *June 21st 2016*

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

THE WEST VIRGINIA STATE PURCHASING DIVISION FOR THE AGENCY, THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, IS SOLICITING BIDS FOR AN OPEN-END CONTRACT FOR MAPPING SERVICES FOR THE NORTHERN WEST VIRGINIA COUNTIES, PER THE ATTACHED SPECIFICATIONS AND DOCUMENTATION.

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV 25304

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Control Surveying	600.00000	HOURL		

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.1.1.2 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV 25304

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Topographic, Planimetric and Check Surveying	1800.00000	HOURL		

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.1.1.3 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON US	WV 25304

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	Topographic Mapping - (0-25 Acres)	15.00000	ACRE		

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.2 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON	WV 25304
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	Topographic Mapping - (25-50 Acres)	30.00000	ACRE		

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.2 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON	WV25304	ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON	WV 25304
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	Topographic Mapping - (50-100 Acres)	75.00000	ACRE		

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.2 & 4.2)

INVOICE TO		SHIP TO	
ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV25304 US		ENVIRONMENTAL PROTECTION OFFICE OF AML&R 601 57TH ST SE CHARLESTON WV 25304 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
6	Topographic Mapping - (Over 100 Acres)	125.00000	ACRE		

Comm Code	Manufacturer	Specification	Model #
81151601			

Extended Description :
(Spec Item 3.2 & 4.2)

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Tech Question Deadline at 5:00 PM, EST	2016-06-03

DEP1600000054	Document Phase Final	Document Description Mapping Services in Northern West Virginia (Open-End)	Page 5 of 5
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. REVIEW DOCUMENTS THOROUGHLY: The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

2. MANDATORY TERMS: The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

3. PREBID MEETING: The item identified below shall apply to this Solicitation.

A pre-bid meeting will not be held prior to bid opening

A NON-MANDATORY PRE-BID meeting will be held at the following place and time:

A MANDATORY PRE-BID meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing.

Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. VENDOR QUESTION DEADLINE: Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

Submitted e-mails should have solicitation number in the subject line.

Question Submission Deadline: June 3, 2016 at 5:00 PM, EST

Submit Questions to: Beth A. Collins, Senior Buyer
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)
Email: beth.a.collins@wv.gov

5. VERBAL COMMUNICATION: Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

6. BID SUBMISSION: All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile.

The bid delivery address is:
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

SEALED BID:
BUYER:
SOLICITATION NO.:
BID OPENING DATE:
BID OPENING TIME:
FAX NUMBER:

The Purchasing Division may prohibit the submission of bids electronically through wvOASIS at its sole discretion. Such a prohibition will be contained and communicated in the wvOASIS system resulting in the Vendor's inability to submit bids through wvOASIS. Submission of a response to an Expression of Interest or Request for Proposal is not permitted in wvOASIS.

For Request For Proposal ("RFP") Responses Only: In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal plus _____ convenience copies of each to the Purchasing Division at the address shown above. Additionally, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: (This only applies to CRFP)

- Technical
 Cost

7. BID OPENING: Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: June 21, 2016 at 1:30 PM, EST

Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

8. ADDENDUM ACKNOWLEDGEMENT: Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

9. BID FORMATTING: Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

10. ALTERNATES: Any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

11. EXCEPTIONS AND CLARIFICATIONS: The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. COMMUNICATION LIMITATIONS: In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

13. REGISTRATION: Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee, if applicable.

14. UNIT PRICE: Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

15. PREFERENCE: Vendor Preference may only be granted upon written request and only in accordance with the West Virginia Code § 5A-3-37 and the West Virginia Code of State Rules. A Vendor Preference Certificate form has been attached hereto to allow Vendor to apply for the preference. Vendor's failure to submit the Vendor Preference Certificate form with its bid will result in denial of Vendor Preference. Vendor Preference does not apply to construction projects.

16. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES: For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

17. WAIVER OF MINOR IRREGULARITIES: The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

18. ELECTRONIC FILE ACCESS RESTRICTIONS: Vendor must ensure that its submission in wvOASIS can be accessed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately opened and/or viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires, and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening if those documents are required with the bid.

19. NON-RESPONSIBLE: The Purchasing Division Director reserves the right to reject the bid of any vendor as Non-Responsible in accordance with W. Va. Code of State Rules § 148-1-5.3, when the Director determines that the vendor submitting the bid does not have the capability to fully perform, or lacks the integrity and reliability to assure good-faith performance.”

20. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part in accordance with W. Va. Code of State Rules § 148-1-4.5. and § 148-1-6.4.b.”

21. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor’s entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled “confidential,” “proprietary,” “trade secret,” “private,” or labeled with any other claim against public disclosure of the documents, to include any “trade secrets” as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

GENERAL TERMS AND CONDITIONS:

1. CONTRACTUAL AGREEMENT: Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. DEFINITIONS: As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

2.1. "Agency" or "Agencies" means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

2.2. "Bid" or "Proposal" means the vendors submitted response to this solicitation.

2.3. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

2.4. "Director" means the Director of the West Virginia Department of Administration, Purchasing Division.

2.5. "Purchasing Division" means the West Virginia Department of Administration, Purchasing Division.

2.6. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

2.7. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.8. "State" means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

2.9. "Vendor" or "Vendors" means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

Term Contract

Initial Contract Term: This Contract becomes effective on contract award and extends for a period of one (1) year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Renewal of this Contract is limited to three (3) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed ³⁶ months in total. Automatic renewal of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases. Attorney General approval may be required for vendor terms and conditions.

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

Fixed Period Contract: This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

Fixed Period Contract with Renewals: This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days.

Upon completion, the vendor agrees that maintenance, monitoring, or warranty services will be provided for one year thereafter with an additional _____ successive one year renewal periods or multiple renewal periods of less than one year provided that the multiple renewal periods do not exceed _____ months in total. Automatic renewal of this Contract is prohibited.

One Time Purchase: The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

Other: See attached.

4. NOTICE TO PROCEED: Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.

5. QUANTITIES: The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

Open End Contract: Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

Service: The scope of the service to be provided will be more clearly defined in the specifications included herewith.

Combined Service and Goods: The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

One Time Purchase: This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. EMERGENCY PURCHASES: The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute a breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

7. REQUIRED DOCUMENTS: All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

BID BOND (Construction Only): Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

PERFORMANCE BOND: The apparent successful Vendor shall provide a performance bond in the amount of _____. The performance bond must be received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.

LABOR/MATERIAL PAYMENT BOND: The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable.

MAINTENANCE BOND: The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

INSURANCE: The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:

Commercial General Liability Insurance: In the amount of 1,000,000.00
_____ or more.

Builders Risk Insurance: In an amount equal to 100% of the amount of the Contract.

\$1,000,000.00 Professional Liability

\$1,000,000.00 Auto Liability

\$2,000,000.00 Aggregate

The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed above.

LICENSE(S) / CERTIFICATIONS / PERMITS: In addition to anything required under the Section entitled Licensing, of the General Terms and Conditions, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

8. WORKERS' COMPENSATION INSURANCE: The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

9. LITIGATION BOND: The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or \$5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.

10. LIQUIDATED DAMAGES: Vendor shall pay liquidated damages in the amount of

for _____

This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy.

11. ACCEPTANCE: Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

12. PRICING: The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification.

13. PAYMENT: Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.

14. PURCHASING CARD ACCEPTANCE: The State of West Virginia currently utilizes a Purchasing Card program, administered under contract by a banking institution, to process payment for goods and services. The Vendor must accept the State of West Virginia's Purchasing Card for payment of all orders under this Contract unless the box below is checked.

Vendor is not required to accept the State of West Virginia's Purchasing Card as payment for all goods and services.

15. TAXES: The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

16. ADDITIONAL FEES: Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

17. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

18. CANCELLATION: The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-6.1.e.

19. TIME: Time is of the essence with regard to all matters of time and performance in this Contract.

20. APPLICABLE LAW: This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.

21. COMPLIANCE: Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

22. ARBITRATION: Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

23. MODIFICATIONS: This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

24. WAIVER: The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

25. SUBSEQUENT FORMS: The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

26. ASSIGNMENT: Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.

27. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

28. STATE EMPLOYEES: State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

29. BANKRUPTCY: In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.

30. PRIVACY, SECURITY, AND CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>.

31. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code § 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

32. LICENSING: In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

33. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

34. VENDOR CERTIFICATIONS: By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. INDEMNIFICATION: The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. PURCHASING AFFIDAVIT: In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of \$1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.

38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE: This Contract may be utilized by other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"). Any extension of this Contract to the aforementioned Other Government Entities must be on the same prices, terms, and conditions as those offered and agreed to in this Contract, provided that such extension is in compliance with the applicable laws, rules, and ordinances of the Other Government Entity. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.

39. CONFLICT OF INTEREST: Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

40. REPORTS: Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.

41. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision. The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
- c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or
- d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

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SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of WV Department of Environmental Protection, Office of Abandoned Mine Lands & Reclamation (WVDEP/AML) to establish an open-end contract for Mapping Services in Northern Counties of West Virginia. The Scope of Work shall include the development of detailed topographical mapping from field survey data, aerial photography, light detection and ranging (LiDAR) data, or **currently utilized and developing technologies**. Upon delivery, these data should be suitable and adequate for the development of detailed construction plans and specifications. The limits of areas to be mapped shall be outlined on documents included in the Work Directive, and also, as directed and determined during initial on-site meetings.

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in Section 2 of the General Terms and Conditions.
 - 2.1 **“Contract Item” or “Contract Items”** means the list of items identified in Section 3.1 below and on the Pricing Pages.
 - 2.2 **“Pricing Pages”** means the schedule of prices, estimated order quantity, and totals contained in wvOASIS or attached hereto, and used to evaluate the Solicitation responses.
 - 2.3 **“LiDAR”** is an optical sensing technology used to determine the position, velocity, or other characteristics of distant objects by analysis of pulsed laser light reflected from their surfaces.
 - 2.4 **“NAD83/2011”** is the North American Datum of 1983.
 - 2.5 **“NAVD88”** is the North American Vertical Datum of 1988.
 - 2.6 **“ASCII”** is the American Standard Code for Information Interchange.
 - 2.7 **“ASC”** is the American Standard Code which is a text file in which each byte represents one character according to ASCII code.
 - 2.8 **“TXT”** is a computer file that contains Text (and possibly formatting instructions) using seven-bit ASCII characters.
 - 2.9 **“GSD”** is the Ground Sample Distance which is the physical measure of the level of detail of data collection for remote digital imaging of the surfaces of terrestrial objects.

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- 2.10 **“NTE”** means Not-To-Exceed.
- 2.11 **“RGB”** means Red-Green-Blue which is a color model based on additive color primaries.
- 2.12 **“JPEG”** means Joint Photographic Experts Group which is a development group for compressed 24-bit color image stored format; also a file extension.
- 2.13 **“TIFF”** means Tagged Image File Format which is a graphics file format.
- 2.14 **“USB”** means Universal Serial Bus which is an industry standard developed in the mid-1990s that defines the cables, connectors and communication protocols in a bus for connection, communication, and power supply between computers electronic devices.
- 2.15 **“2D”** means two-dimensional space which is a geometric model of the planar projection.
- 2.16 **“3D”** means three dimensional space which is a three-dimensional representation of geometric data.
- 2.17 **“CSV”** means Comma Separated Values which is a file that stores tabular data (numbers and text) in plain text.
- 2.18 **“XML”** means Extensible Markup Language which is a markup language that defines a set of rules for encoding documents in a format which is both human-readable and machine-readable.
- 2.19 **“LAS”** means Laser File Format which is a file format that is used in lidar processing operations.
- 2.20 **“DWG”** means Drawing Format which is a binary file format used for storing two- and three- dimensional design data and metadata. It is the native format for several CAD packages.
- 2.21 **“DTM”** means Digital Terrain Model which is a utility (command) for AutoCAD that automatically creates an irregular triangular network from a given selection set of 3D objects.
- 2.22 **“DEM”** means Digital Elevation Model which is a digital model or three-dimensional representation of a terrain’s surface.

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2.23 "AutoCAD" is a commercial software application for two-dimensional and three-dimensional computer-aided design (CAD) and drafting.

2.24 "GPS" means Global Positioning System which is a space-based navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites.

2.25 "RFQ" means Request for Quotation.

2.26 "F.O.B" is an abbreviation for Free on Board which means that a vendor or consignor will deliver goods without any expense to the consignee.

3. GENERAL REQUIREMENTS:

3.1 **Contract Items and Mandatory Requirements:** Vendor shall provide Agency with the Contract Items listed below on an open-end and continuing basis. Contract Items must meet or exceed the mandatory requirements as shown below.

3.1.1 CONTROL, TOPOGRAPHIC, PLANIMETRIC AND CHECK SURVEY

3.1.1.1 Use of publicly available data to generate deliverable must be sited with metadata providing source of data, datum, projection, and units of measure. Cite sampling tests to indicate level of precision of data set regarding deliverable.

3.1.1.2 All field surveys will be based upon the NAD83/2011 WV State Plane horizontal datum and the NAVD88 vertical datum. Benchmarks and horizontal control shall be of a permanent nature and established outside of the anticipated limits of construction. The minimum requirements for the installation of control shall be specified in the project Work Directive.

The measurement and payment for Control Surveying shall be 'per hour' and shall be inclusive of all requirements herein. No additional payment will be made for this work.

3.1.1.3 Field Surveys for Topographic Mapping – Field surveys will be conducted as needed to establish horizontal and vertical control data for preparation of the topographic map(s) as well as the

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required check sections and any necessary planimetric locations. The following specifications and stipulations will apply to field survey.

3.1.1.3.a The maximum allowable relative horizontal positioning precision is 2 cm (0.07 feet) plus 50 parts per million (based upon direct distance between the two points).

3.1.1.3.b Horizontal traverses shall be closed. Total angular misclosure shall be less than 5 seconds times the number of angles. Horizontal direction shall be referenced to the horizontal datum specified in 3.1.1.2.

3.1.1.3.c A baseline shall be established across or in close proximity to the site with permanent objects or conventional surveying markers as directed in Item (d) below. Baselines may be established on pre-existing jeep trails, roads or utility rights of way on or in close proximity to the site. A minimum of three (3) baseline stations shall be monumented by conventional survey markers (e.g. galvanized spikes, rebar with plastic caps, etc.) set flush with the ground surface and referenced by guard stakes, and shall be inter-visible to one another and be tied to the horizontal and vertical control.

3.1.1.3.d All field survey control work shall be conducted on the public right of way where possible, however, the WVDEP/AML shall obtain right of way on private property where needed.

3.1.1.3.e During the field survey, traverse stations shall be marked and referenced so that they can be readily recovered or re-established. A minimum of two reference points should be set at each horizontal change in the baseline. Traverse stations shall be marked by conventional survey markers (e.g. galvanized spikes, rebar with plastic caps, etc.) flush with the ground surface and referenced by guard stakes or natural or identifiable permanent objects at the ground surface. The location and description of all traverse stations shall be accurately recorded in the notes or contained within a point list file, such as an ASCII format (i.e. ASC or TXT). The markings on the guard stakes shall include the station number and elevation of the traverse station.

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3.1.1.3.f Vertical traverses shall be of such precision that the error of closure (in feet) shall not exceed plus or minus 0.05 times the square root of the length of the traverse (in miles). The locations, descriptions, and elevations of benchmarks shall be accurately recorded in the notes or contained within a point list file.

The measurement and payment for Topographic, Planimetric, and Check Surveying shall be 'per hour' and shall be inclusive of all requirements herein. No additional payment will be made for this work.

3.2 Topographic Mapping

3.2.1 TOPOGRAPHICAL MAPPING Using Aerial Photography and Airborne or Terrestrial LiDAR

3.2.1.1 Aerial Photography – Digital imagery derived from a digital camera shall have a GSD (Ground Sample Distance) NTE of 10.0 cm, RGB (color). NTE 12 microns. The photographs shall be made with a calibrated precision-type aerial camera in a vertical position. The Mapping Consultant or their Sub-Consultant shall supply (1) a copy of a calibration certificate, issued by the National Institute of Standards and Technology (NIST) or other competent testing organizations, which is dated within the past thirty-six (36) months or (2) a copy of a specification document issued by a competent testing organization or the manufacturer citing the fiducial dimensions of the imaging device upon demand by the DEP. Any commercial aerial film with a fine-grain emulsion may be used. Altitude shall be the height above average ground required to achieve the accuracy listed in these specifications, not to exceed 4,800 feet.

The time for taking the photographs shall be such that the sky is clear of clouds and haze, streams are within their normal banks, deciduous trees and other vegetation are without leaves, and the ground is free from snow cover. The time for taking of photographs shall be further confined to that portion of the day when the sun is at its highest angle.

The entire project area shall have stereoscopic coverage within the useable distortion-free portion of the field of the lens. Side overlap shall be no less than 25 percent.

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At the completion of the work, the following shall be provided the contracting officer.

3.2.1.1.a All imagery shall be submitted in both digital format (JPEG or TIFF), and printed photos of the mapped area(s).

3.2.1.1.b Copies of cross-sections taken every 300 feet along the baseline, plotted and overlaid on cross-sections developed from the mapping to verify the mapping accuracy. Upon review, WVDEP/AML reserves the right to request corrections to any discrepancies of areas of concern. The requested corrections shall be made at the vendor's cost. These areas shall specifically include areas of mapping in which concentrated design and/or construction efforts are required, as per the Work Directive, and also, as directed and determined during initial and subsequent on-site meetings.

3.2.1.1.c Two sources of digital electronic media (e.g. compact disc, USB drive, etc.) containing all survey mapping and data, and all data sets obtained or generated (i.e. point and classification data) contours, 2D base-map, 3D planimetrics and breaklines, surface modeling, flight lines, extents, associated ASCII, CSV, TXT, XML, LAS, DWG files and DTM/DEM model file(s) delivered in digital data files compatible to AutoCAD version 2010 format or later.

3.2.1.2 Public Source Data – Use of publicly available data to generate deliverable source of data must be cited with metadata providing source of data, datum, projection, and units of measure. Cite sampling test to indicate level of precision of data set regarding deliverable.

3.2.1.3 LiDAR – Airborne or Terrestrial LiDAR data, either obtained from available sources, or generated and compiled, shall meet requirements outlined in the National Geospatial Program LiDAR Base Specification Version 1.2 for Quality Level 2 (aggregate nominal pulse density of no less than 2 pulses per square meter). LiDAR shall be classified for the recovery of bare earth data.

3.2.1.4 Field Surveys – Field surveys will be conducted as needed to establish horizontal and vertical control data for use in compiling mapping from aerial photography. Such surveys shall also be performed to obtain ground surveyed check sections and airborne LiDAR data collections. Typical technologies for survey data collection include the use of conventional and robotic total stations, terrestrial imaging, and global positioning system (GPS) survey equipment.

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3.2.1.5 Topographic Mapping – Topographic base map drawings shall be on 24" x 36" standard map sheets. Every 10' contour interval shall be accentuated with elevations noted. The topographic contour map(s) shall be prepared using stereo photogrammetric or DTM methods. The basic map shall be plotted and mechanically transcribed to a scale of 1" = 50' with a contour interval of 1 foot unless otherwise specified by the DEP based on particular needs established due to the site specific circumstances. Digitally compiled and triangulated surface model(s) shall be DTM or XML compatible formats.

The topographic drawings shall have included on them (lower right part of map) the following:

- The name of the project
- Inserts showing location and all control and reference points
- The location of the project (county map)
- Legend
- Title block for approval signatures
- Map Scale
- North Arrow
- Coordinate Grid Lines

The various views required to be presented on the drawings shall be oriented in the following manner:

3.2.1.5.a If the mapping requires the use of two sheets or more, match lines will be used to relate the sheets together. If the use of more than two sheets is necessary, an additional sheet will be required with a reduced scale enabling the placement of the entire area on one sheet indicating how the sheets relate to each other.

3.2.1.5.b Each topographic sheet shall be oriented, whenever possible so the direction of stream flow is from the left to the right or from the top to the bottom of the sheet. Arrows indicating the direction of stream flow will be included. Spot elevations shall be shown to assist in determination of hilltops, saddles and road intersections. Each sheet shall contain a bar scale and a geodetic or polar north arrow.

3.2.1.5.c Physical Features – All physical features situated on the ground such as vegetation, rivers, ponds, lakes, small streams, rock outcrops, and other unusual features will be located and identified on the topographic map.

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3.2.1.5.d Cultural Features – All cultural features such as houses, barns, buildings, commercial businesses, highways, railroad, bridges, pipelines, farm ponds, fences, electric power lines, telephone lines, utility lines, gas wells, and any other cultural features shall be located and identified on the topographic map. Specific features dealing with mining such as the limits of coal refuse, landslides if determinable, the location of strip mine highwalls and overburden, deep mine openings, both draining and dry and any other mining related feature must be located and identified on the topographic map. This requirement should be accomplished to the best degree possible without an actual detailed survey, such as digital orthophotos.

3.2.1.5.e All horizontal and vertical control points – to include permanent or temporary benchmarks, will be located and identified on the map. There shall be a minimum of three vertical points and three horizontal points.

3.2.1.5.f The precision of the topographic map for all areas within the actual project area shall not be less than the following:

- Average error shall not exceed $0.01 \times$ the scale of the map expressed in feet per inch.
- Percentage error in scaled areas shall not exceed $0.02 \times$ scale of the map expressed in feet per inch.
- Of points chosen at random, the percentage whose error in elevation exceeds one-half the specified contour interval shall not exceed 10 percent.
- All maps shall be drawn to the limits as shown on the mapping outline for the individual areas.

Note: Areas outside the actual project limits are to be as precise as conditions allow but will not be held to these limits.

3.2.1.5.g Symbols and abbreviations shall be in accordance with “Standard Map Symbols” published by the Soil Conservation Service, U.S. Department of Agriculture, January 1965 or adopted industry standards.

The measurement and payment for Topographic Mapping shall be ‘per acre’ and shall be inclusive of all requirements herein.

3.3 Mapping Consultant Qualification Requirements

3.3.1 The Mapping Consultant shall demonstrate the capability of providing topographical, design data, and construction surveys in accordance with US National Map Standards. Minimum experience is two

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(2) years. To the extent possible, the Mapping Consultant will utilize available aerial photography, aerial topographic maps and existing or generated, LiDAR data sets and the information contained thereon, in addition to, planimetric locations for the development of mapping. All survey work described below shall be performed under the direction of a Professional Surveyor, licensed or registered in the State of West Virginia, who will certify the work and drawings performed under this contract and as directed in the specific project work directive.

During the performance of this contract, the Mapping Consultant agrees to follow and obey all Federal and State Laws and Regulations, etc.

The Mapping Consultant must meet the requirements listed below in order to be considered qualified to perform the work designated by this RFQ. Successful Mapping Consultants should have the following professional capabilities or staff available at the time of the bid.

- Professional Surveyor
- Competent Field Staff and Survey Crew
- Professional Drafting Capabilities
- Adequate Computer Aided Design Capabilities (AutoCAD Version 2010 format (or later) or Engineer approved alternate)
- Capacity to process and complete multiple projects within the designated time frames

Mapping Consultant must submit the following at the time of bid:

- Names of individuals performing work including registration/licensing numbers.
- List of similar work completed by your firm (include five (5) recent examples).
- List of similar work currently under contract.
- Name of Project Manager anticipated for this work.
- Number of years your company has performed this type of work.

The Mapping Consultant will be required to have knowledge or experience in the following areas:

- Development of Topographic Mapping from Field Survey as well as from Aerial Photographs or currently utilized and developing technologies. The use of Sub-Consultants will be permitted under this contract for aerial photography work.

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3.4 Additional Requirements:

3.4.1 In accomplishing services to fulfill the requirements of Work Directives, neither the Mapping Consultant or his Sub-Consultant shall create any adverse environmental effects, and shall be responsible for compliance with all applicable local, state and federal environmental and occupational health and safety laws and regulations pertinent to the work.

3.4.2 Any Mapping Consultant shall be ineligible to bid on any aspect of the construction phase of a project if it prepared any part or aided in the preparation of any part of the contract documents for construction.

3.4.3 WVDEP/AML may retain ten percent (10%) of the Mapping Consultant's invoices until such time the Chief is satisfied that all of the conditions of the contract have been met. The Mapping Consultant must be responsible for taking any and all such measures as are necessary to correct any defect(s) arising out of the contract which are proven to be as a result of error(s) in the mapping. Such corrective action(s) shall be performed to the satisfaction of the Assistant Director.

3.5 Location of Work:

3.5.1 The Mapping Consultant shall furnish all personnel, facilities, equipment, material, supplies, and services for all of the scope of work required in this contract, at the location(s) specified.

3.5.2 The area of work shall include the entire State of West Virginia. The counties listed below are the coal producing counties and those in parentheses represent where most of the work required in the contract is located.

“Northern” Counties

1. (Hancock)
2. (Brooke)
3. (Ohio)
4. Marshall
5. Wetzel
6. Tyler
7. (Monongalia)
8. (Preston)

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9. (Marion)
10. Doddridge
11. (Harrison)
12. (Taylor)
13. Mineral
14. (Grant)
15. (Tucker)
16. (Barbour)
17. (Lewis)
18. (Braxton)
19. (Upshur)
20. (Webster)
21. Pocahontas
22. (Randolph)
23. Pendleton
24. (Gilmer)
25. Calhoun

4. CONTRACT AWARD:

- 4.1 Contract Award:** The Contract is intended to provide Agencies with a purchase price on all Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Items meeting the required specifications for the **lowest overall total cost as shown on the Pricing Pages.**
- 4.2 Pricing Pages:** Vendor should complete the Pricing Pages with Bid Cost per Unit. All lines will have totals and a Grand Total at the bottom. Vendor should complete the Pricing Pages in their entirety as failure to do so may result in Vendor's bids being disqualified.

The Pricing Pages contain a list of the Contract Items and estimated purchase volume. The estimated purchase volume for each item represents the approximate volume of anticipated purchases only. No future use of the Contract or any individual item is guaranteed or implied.

For a bid to be accepted, all line items must contain a price or be inclusive in another item. Otherwise, your bid will be disqualified.

Vendor should electronically enter the information into the Pricing Pages through wvOASIS, if available, or as an electronic document.

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5. ORDERING AND PAYMENT:

- 5.1 Ordering:** Vendor shall accept orders through wvOASIS, regular mail, facsimile, e-mail, or any other written form of communication. Vendor may, but is not required to, accept on-line orders through a secure internet ordering portal/website. If Vendor has the ability to accept on-line orders, it should include in its response a brief description of how Agencies may utilize the on-line ordering system. Vendor shall ensure that its on-line ordering system is properly secured prior to processing Agency orders on-line.

This is an indefinite quantity contract for the services specified in the Statement of Work and for the period set forth herein. Delivery and performance shall be made in accordance with the provisions of this contract.

Work will be ordered by the WVDEP/AML Project Manager or authorized representative through a Work Directive which shall specify the location of this project site, the specified problem, the work to be performed, and the time frame during which the work must be completed. The Mapping Consultant will then be responsible for contacting WVDEP/AML to arrange an on-site meeting. Upon completion of a field reconnaissance with a WVDEP/AML representative, the Mapping Consultant will submit a Cost Proposal for the work requested, signed by a principal of the firm. The individual project cost proposal which contains the quantity estimates shall be in accordance with the **unit prices** provided in the response to this RFQ.

- 5.2 Payment:** Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia. Payment to the Mapping Consultant will be made on the basis of the items and unit prices outlined in the Purchase Order.

The Mapping Consultant shall invoice after the completion of work specified in the Work Directive and after submission of all required work when the Performance Period is less than thirty (30) days. Invoices may be submitted monthly when the Performance Period exceeds thirty (30) days.

6. DELIVERY AND RETURN:

- 6.1 Delivery Time:** The Mapping Consultant shall prepare, submit and deliver all original survey notes, associated data files, base topographic mapping and additional drawings etc., or calculations as may be requested by the specific Work Directive within the time frame established for the project. The submission of all preliminary documents or required revisions must also be accomplished within said time frame. Additional time will be given for completion of any revisions and to provide time for billings. Such time to be defined as the performance period.

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The WVDEP/AML will be responsible for obtaining any necessary Rights of Entry for purposes for performing field surveys to provide ground control for topographic mapping from aerial photography. The majority of this work should be done in public access areas such as highway right of way, etc. Additionally, any ground surveys will require the Mapping Consultant to identify to the WVDEP/AML any areas requiring access so that the WVDEP/AML may obtain Right of Entry for those areas.

The work and services to be performed under this contract shall be subject to continuous monitoring and inspection by the State's authorized representatives. Such inspector will ensure compliance. Final Inspection and acceptance will be made by the WVDEP/AML Project Manager or authorized representatives.

- 6.2 Late Delivery:** The Agency placing the order under this Contract must be notified in writing if orders will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the delayed order, and/or obtaining the items ordered from a third party. If time frames are not met, the WVDEP/AML may refrain from issuing further Work Directives and if a Mapping Consultant persists in being late with submittals, the WVDEP/AML may refuse to renew the Mapping Consultant's contract.

Any Agency seeking to obtain items from a third party under this provision must first obtain approval of the Purchasing Division.

- 6.3 Delivery Payment/Risk of Loss:** Standard order delivery shall be F.O.B. destination to the Agency's location. Vendor shall include the cost of standard order delivery charges in its bid pricing/discount and is not permitted to charge the Agency separately for such delivery. The Agency will pay delivery charges on all emergency orders provided that Vendor invoices those delivery costs as a separate charge with the original freight bill attached to the invoice.
- 6.4 Return of Unacceptable Items:** If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable, or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

REQUEST FOR QUOTATION
Mapping Services in Northern WV

- 6.5 Return Due to Agency Error:** Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

7. VENDOR DEFAULT:

7.1 The following shall be considered a vendor default under this Contract.

- 7.1.1 Failure to provide Contract Items in accordance with the requirements contained herein.
- 7.1.2 Failure to comply with other specifications and requirements contained herein.
- 7.1.3 Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.
- 7.1.4 Failure to remedy deficient performance upon request.

7.2 The following remedies shall be available to Agency upon default.

- 7.2.1 Immediate cancellation of the Contract.
- 7.2.2 Immediate cancellation of one or more release orders issued under this Contract.
- 7.2.3 Any other remedies available in law or equity.

8. MISCELLANEOUS:

- 8.1 No Substitutions:** Vendor shall supply only Contract Items submitted in response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.
- 8.2 Vendor Supply:** Vendor must carry sufficient inventory of the Contract Items being offered to fulfill its obligations under this Contract. By signing its bid, Vendor certifies that it can supply the Contract Items contained in its bid response.

REQUEST FOR QUOTATION
Mapping Services in Northern WV

- 8.3 Reports:** Vendor shall provide quarterly reports and annual summaries to the Agency showing the Agency's items purchased, quantities of items purchased, and total dollar value of the items purchased. Vendor shall also provide reports, upon request, showing the items purchased during the term of this Contract, the quantity purchased for each of those items, and the total value of purchases for each of those items. Failure to supply such reports may be grounds for cancellation of this Contract.
- 8.4 Contract Manager:** During its performance of this Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract manager and his or her contact information below.

Contract Manager: Dennis Miller
Telephone Number: 304-933-3119
Fax Number: 304-933-3327
Email Address: dmiller@cocinc.com

ATTACHEMENT A

CEC AND PERSONNEL MAPPING PROJECTS

ATTACHMENT A

Project Owner	Project Name	Acreage Mapped	Scope of Work
	Drews Creek A Highwall	35	
	Little Whitestick Creek Refuse Pile	40	
	Island Creek #18 Mine Complex	30	
	Mallory Refuse Pile	25	
	Mullens Portals	50	
	Terry Branch Portals and Refuse	25	
	Georges Creek Portals	40	
	Putney Impoundment	15	
	Winifred (McFann) Portals	100	
	Venus (Hamilton) Drainage	22	
	Dunloup Creek Complex	100	
	Racine (Bradshaw) Portals	15	
	Maybeury (Oakley) LS	20	
	Delbarton (Dardi) Portals	45	
	McComas (Thompson) Drainage 1	30	
	Matoaka (Crespo) Drainage	15	
	Matoaka (Young) Drainage	10	Developed detailed topographic mapping for design.
	Riffe Branch Burning Refuse	40	Performed all field surveys, control network QC check stations.
	Helen (Summe) Drainage	10	Aerial work performed by GRW Aerial Services.
	Sarah Ann (Vance) Drainage	40	
	Measle fork Refuse Area	70	
	Gordon "C" Refuse Pile	100	
	Keystone (Avery) LS Drainage	74	
	Earling Refuse Pile	200	
	Northfork (Suiter) Drainage	127	
	Pageton (Lambert) Portals	293	
	Shabbyroom Hollow Complex	130	
	Sugarcamp Run Burning Refuse	165	
	Keaton Branch Complex	85	
	Peach Ridge Complex	120	
	Hazy Creek (Sprouse) Portal	234	
	Hughes Creek (Burke-Quinn) Portals	56	
	Nellis (Smith) Drainage	165	
	Ream Refuse Piles	200	
	Jonben Refuse Piles	26	
	Harris Branch Refuse Pile	37	

ATTACHMENT A

Project Owner	Project Name	Acreage Mapped	Scope of Work	
	Newtown (Kinder) Portals	100	Developed detailed topographic mapping for design. Performed all field surveys, control network QC check stations. Aerial work performed by Keddal Aerial Mapping.	
	Coaldale Mountain Refuse Pile	69		
	Marmet-Clark Drainage	50		
	Thorpe Refuse Pile	132		
	Mill Creek Refuse Pile	48		
	Winona Complex	186		
	Trace Branch Refuse Pile	80		
	Sugartree Branch Refuse Pile	95		
	Robinette Branch Refuse Pile	47		
	Greenbrier Hollow Refuse Pile	97		
	Johns Branch Coal Refuse Dam	265		
	Bradshaw Mine Dump	43		
	Long Branch Highwall Complex	494		
	Indian Creek Refuse Pile	100		
Wolfpen (Carpenter) Portals	205			
WVDEP (North)	Church Creek/Manown Highwall	330	Developed detailed topographic mapping for design. Performed all field surveys, control network QC check stations. Aerial work performed by GRW Aerial Services.	
	Heather Run #2	75		
	Lynch Run Highwall #10	45		
	Crooked Run #5	140		
	Mountain Run Refuse	85		
	Prospect Valley Highwall	70		
	Barker Portals and Strip	100		
	Birds Creek #4	160		
	Kingwood Rt 7 Highwall	90		
	Little Laurel Run Highwall	48		
	Fairmont Five Subsidence	10		
	Cambria Portals & Drainage	50		
	Greystone Mine Drainage	2		Performed conventional topographical surveying
	Pines Country Club (Pond) Subsidence	100		Developed detailed topographic mapping for design. Performed all field surveys, control network QC check stations. Aerial work performed by GRW Aerial Services.
	Birds Creek Portals	459		
	Pringle Run #2	188		
	Squire's Creek Portals & Refuse	60		
Tub Run Highwall & Refuse - Phase I	364			
Valley Point #2	50			
Zebb's Creek Highwall #2	14			

ATTACHMENT A

Project Owner	Project Name	Acreage Mapped	Scope of Work
	Overfield (Lafferty) CS & Portal	27	Developed detailed topographic mapping for design. Performed all field surveys, control network QC check stations.
	Dotson Tipple Project	228	
	Laurel Point Strip	333	
	Reynoldsville Refuse	335	Aerial work performed by GRW Aerial Services.
	Wheeling 15th Street Mine Drainage	1	Performed conventional topographical surveying.
	Montana Mines Subsidence	23	Developed detailed topographic mapping for design. Performed all field surveys, control network QC check stations. Aerial work performed by GRW Aerial Services.
	Shinston-Lumberport Subsidence	2	Performed conventional topographical surveying.
	Gains Highwall	50	Developed detailed topographic mapping for design. Performed all field surveys, control network QC check stations. Aerial work performed by GRW Aerial Services.
	Douglas Run Strip	82	
	Shinnston (Shinns Run) Portals & AMD	46	Developed detailed topographic mapping for design. Performed all field surveys, control network QC check stations. Aerial work performed by Keddal Aerial Mapping.
	Clarksburg (Lyons) LS	98	
	Dale R. Trasher	122	
	Tub Run HW & Refuse Phase II	457	
	Hawkinberry Hollow Portals & Subsidence	97	
	Simpson Creek HW, Tipple & Portals	526	
	Laurel Run #1	261	
	Robinson Run (Cale) Mine Drainage	28	
	Forman Dawson Portal	55	
	Valley Bend Strip	87	
	Williams Mine Portals	59	
	LOBO Capital	10	Performed conventional topographical surveying.

ATTACHMENT A

The engineering and survey team in CEC's West Virginia office is currently working on the following WVDEP projects:

Table 3: CEC's current WVDEP projects

Project Owner	Project	SOW
WVDEP AML	Shinns Run Portals, DEP 16070	AML Reclamation Project
WVDEP AML	Camden (Hartley) Dangerous Landslide, DEP 16160	AML Reclamation Project
WVDEP AML	McAlpin Portals and Drainage, DEP 16437	AML Reclamation Project
WVDEP Spec. Rec.	Energy Marketing, U-24-84 Forfeited Permit	Special Reclamation Project

ATTACHEMENT B

RESUMES OF KEY PERSONNEL

ATTACHMENT "B" - MAPPING SERVICES IN NORTHERN WEST VIRGINIA – KEY PERSONNEL RESUME'S

NAME & TITLE (Last, First, Middle Int.)

YEARS OF EXPERIENCE

*Calkins, Randolph, M., P.S. (As Needed)
Bridgeport, WV Office

YEARS OF SURVEYING AND MAPPING EXPERIENCE: 36

Brief Explanation of Responsibilities: AML MANAGER - Project Manager and Principal Designer – ALL FIELD AND OFFICE RELATED WORK, including expression of interest response, Project scope of work document and associated engineering cost estimate, invoicing, and monthly progress reports. Designer - AutoCAD, SurvCAD, and Haestads Operator. Specification Writer, Calculation Brief, Bid Estimate, Microsoft Word and Excel Operator.

AML experience: PROJECTS COMPLETED – McAlpin Portals and Drainage; Hodgesville (Wright) Mine Blow-Out; Arlington (Gain) Highwall; Camden (Hartley) Dangerous Landslide; Shinn's Run Portals; Special Rec. Multiple Projects; Cadd Services Open-End Contract; Norton Highwall #1; Tub Run Highwall and Refuse Phase I and II; Greenbrier Hollow Refuse; Pageton (Lambert) Portals; Birds Creek Number 4; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Hampton Number Four Maintenance; Howesville Sites, Sandy Run Highwall and Portals; Wilsie-Rosedale Waterline Extension Feasibility Study – I.D. No. 324; Laurel Valley (Daniels) Landslide; Price Hill Airshaft/Buildings; Weaver Portals and Highwall, Phase I and II; Old Bridgeport Hill Mine Drainage, Phase II; Nixon Run AMD; Arlington (Cox) Drainage; Fairmont (Hendrickson) Subsidence; Tunnelton (Dillsworth) Landslide; Sauls Run Strip and Landslide; Taylor Waterline Extension Feasibility Study-I.D. No. 309; Poplar Ridge Waterline Extension Feasibility Study-I.D. No. 298; Summit Park Waterline Extension Feasibility Study-I.D. No. 288; Hodgesville PSD Waterline Extension Feasibility Study-I.D. No. 275; McElwain Waterline Feasibility Study-I.D. No. 271; Adaland Tipple and Refuse; Bismark Strip Drainage and Refuse; Brownton School Refuse; Burdock Highwall; Clarksburg (Ryder) Avenue Drainage; Conners Highwall; Francis Drainage and Refuse; Muddy Creek Tipple Complex; Pringle Drainage; Superior Hydraulics; Thomas (Euclid Avenue) Subsidence; Zebs Creek Highwall; **PRELIMINARY DESIGN WORK** – Amigo Smokeless Refuse; Austin Highwall; Slab Fork Mine Dump.

Ohio AML Experience: Flint Run East Acid Mine Drainage Reclamation Project; Murray City AMD and Art Project; Danehart Acid Mine Drainage Reclamation; Ferris Forfeiture; Flint Run Acid Mine Drainage Reclamation; Glen Castle Reclamation; Lake Milton Investigation; Linden Acid Mine Drainage Bioremediation; Midvale Coal Number 7; Misco Burning Gob; Nutters Tipple D-716.

Related AML Design: Private Client – Deep Mine Application; **SPEC REC:** Gladly Fork Mining Permit D-35-82; **WVCA:** Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization; **WV Small Operators Assistance Program** (31 applications), **Maryland Small Operators Assistance Program** (1 application), **WV Bond Forfeiture Program** (438 sites), various waste permits for Corridor H (15 permits), Grafton Coal Company (12 years of experience with surface and deep mines)

Education (Degree, Year, Specialization): A.S. Surveying Technology, 1970, Surveying
Level One Natural Stream Design, September 2002
Level Two Natural Stream Design, May 2003
401 / 404 Permit Training, WVDOH, January 2003

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

Registration (Type, Year, State):
Registered Professional Surveyor, 1979, West Virginia



1998 Associated Builders and Contractors Award of Excellence for Zeb's Creek Highwall AML Design.

ATTACHMENT "B" - MAPPING SERVICES IN NORTHERN WEST VIRGINIA – KEY PERSONNEL RESUME'S

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE
Miller, Dennis, E., P.S. Bridgeport, WV Office	YEARS OF SURVEYING AND MAPPING EXPERIENCE: 28

Brief Explanation of Responsibilities: Survey Manager – **ALL FIELD RELATED WORK**, including field survey of topographic and planimetric project information. Generate or supplement mapping for the Project area. Designer - AutoCAD, SurvCAD, and Haestads Operator. Specification Writer, Calculation Brief, Bid Estimate, Microsoft Word and Excel Operator.

AML Experience: Norton Highwall #1; Tub Run Highwall and Refuse Phase I and II; Greenbrier Hollow Refuse; Pageton (Lambert) Portals; Birds Creek Number 4; Bergoo Waterline Extension Feasibility Study, I.D. No. 351; Lewis County EDA Waterline Extension Feasibility Study, I. D. No. 374; Scott Road and Findley Road Waterline Extension Feasibility Study, I.D. No. 356; WVDEP North Mapping Contract; WVDEP South Mapping Contract; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Hampton Number Four Maintenance; Howesville Sites, Sandy Run Highwall and Portals; Laurel Valley (Daniels) Landslide; Price Hill Airshaf/buildings; Weaver Portals and Highwall, Phase I and II; Old Bridgeport Hill Mine Drainage, Phase II; Nixon Run AMD; Arlington (Cox) Drainage; Fairmont (Hendrickson) Subsidence; Tunnelton (Dillsworth) Landslide; Sauls Run Strip and Landslide; Adaland Tipple and Refuse; Bismark Strip Drainage and Refuse; Brownton School Refuse; Burdock Highwall; Clarksburg (Ryder) Avenue Drainage; Conners Highwall; Francis Drainage and Refuse; Muddy Creek Tipple Complex; Pringle Drainage; Superior Hydraulics; Thomas (Euclid Avenue) Subsidence; Zebs Creek Highwall; Bridge Run, Camp Run, Philip Thorn Highwall, Rainelle AML, SCS Reclamation, Shegon Refuse Pile, Taylor Creek Tipple Complex, Tibbs Run Portal, Masontown.

Ohio AML Experience: Flint Run East Acid Mine Drainage Reclamation Project; Murray City AMD and Art Project; Danchart Acid Mine Drainage Reclamation; Ferris Forfeiture; Flint Run Acid Mine Drainage Reclamation; Glen Castle Reclamation; Lake Milton Investigation; Linden Acid Mine Drainage Bioremediation; Midvale Coal Number 7; Misco Burning Gob; Nutters Tipple D-716.

Related AML Design: SPEC REC: Glady Fork Mining Permit D-35-82; **WVCA:** Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Kraut Creek H&H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project. **WV Bond Forfeiture Program** (438 sites), various waste permits for Corridor H (15 permits), Clarksburg U.S. Postal Facility, Grant Town Power Plant, U.S. Route 19 Bridge Layout, Salem Bridge Layout, Webster Bridge Layout, Corridor H (4 Sections), Project Impact Bench Marks, numerous property and topographic mapping projects.

Education (Degree, Year, Specialization): A.S., 1989, Surveying

<p>MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS: West Virginia Contractor's Association West Virginia Association of Land Surveyors West Virginia Associated Builders Upshur County Chamber of Commerce</p>	<p>Registration (Type, Year, State): Registered Professional Surveyor, 1994, West Virginia</p>
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ATTACHMENT "B" - MAPPING SERVICES IN NORTHERN WEST VIRGINIA – KEY PERSONNEL RESUME'S

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE
Littler, Jason, D., P.S. Bridgeport, WV Office	YEARS OF SURVEYING AND MAPPING EXPERIENCE: 20

Brief Explanation of Responsibilities: Survey Manager – **ALL FIELD RELATED WORK**, including field survey of topographic and planimetric project information. Generate or supplement mapping for the Project area. Designer - AutoCAD, SurvCAD, and Haestads Operator. Specification Writer, Calculation Brief, Bid Estimate, Microsoft Word and Excel Operator.

AML Experience: Camden (Hartley) Dangerous Landslide; Shinns Run Portals; Special Rec. Multiple Projects; Norton Highwall #1; Tub Run Highwall and Refuse Phase I and II; Greenbrier Hollow Refuse; Pageton (Lambert) Portals; Birds Creek Number 4; Bergoo Waterline Extension Feasibility Study, I.D. No. 351; Lewis County EDA Waterline Extension Feasibility Study, I. D. No. 374; Scott Road and Findley Road Waterline Extension Feasibility Study, I.D. No. 356; **WVDEP Mapping Contract - South Region (2011-2012)**; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Hampton Number Four Maintenance; Howesville Sites, Sandy Run Highwall and Portals; Laurel Valley (Daniels) Landslide; Price Hill Airshaft/buildings; **WVDEP Mapping Contract – South Region (2008-2011)**; **WVDEP Mapping Contract – North Region (2008-2011)**; Weaver Portals and Highwall, Phase I and II; Old Bridgeport Hill Mine Drainage, Phase II; Nixon Run AMD; Arlington (Cox) Drainage; Fairmont (Hendrickson) Subsidence; Tunnelton (Dillsworth) Landslide; Sauls Run Strip and Landslide; Adaland Tipple and Refuse; Bismark Strip Drainage and Refuse; Brownnton School Refuse; Burdock Highwall; Clarksburg (Ryder) Avenue Drainage; Conners Highwall; Francis Drainage and Refuse; Muddy Creek Tipple Complex; Pringle Drainage; Superior Hydraulics; Thomas (Euclid Avenue) Subsidence; Zehs Creek Highwall; Bridge Run, Camp Run, Philip Thorn Highwall, Rainelle AML, SCS Reclamation, Shegon Refuse Pile, Taylor Creek Tipple Complex, Tibbs Run Portal, Masontown.

Ohio AML Experience: Flint Run East Acid Mine Drainage Reclamation Project; Murray City AMD and Art Project; Danehart Acid Mine Drainage Reclamation; Ferris Forfeiture; Flint Run Acid Mine Drainage Reclamation; Glen Castle Reclamation; Lake Milton Investigation; Linden Acid Mine Drainage Bioremediation; Midvale Coal Number 7; Misco Burning Gob; Nutters Tipple D-716.

Related AML Design: SPEC REC: Gladly Fork Mining Permit D-35-82; **WVCA:** Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Kraut Creek H&H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project, various waste permits for Corridor H (15 permits), Clarksburg U.S. Postal Facility, Grant Town Power Plant, U.S. Route 19 Bridge Layout, Salem Bridge Layout, Webster Bridge Layout, Corridor H (4 Sections), Project Impact Bench Marks, numerous property and topographic mapping projects.

Education (Degree, Year, Specialization): B.S., 1996, Engineering Technology/Surveying

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:	Registration (Type, Year, State):
	Registered Professional Surveyor, 2006, West Virginia

ATTACHMENT "B" - MAPPING SERVICES IN NORTHERN WEST VIRGINIA – KEY PERSONNEL RESUME'S

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE
5 CADD Operators	YEARS OF SURVEYING AND MAPPING EXPERIENCE: Varies

Brief Explanation of Responsibilities: CADD Draftsperson including generation of topographic mapping or supplementation of existing mapping, cross sections, detail sheets, tax map overlays, Project Manager or Staff Engineer design compilation. AutoCAD, SurvCAD, and Haestads Operator. Calculation Brief Details and Drawings, Microsoft Word and Excel Operator.

AML experience: Camden (Hartley) Dangerous Landslide; Shinns Run Portals; Special Rec. Multiple Projects; CADD Services Contract, Norton Highwall #1; Tub Run Highwall and Refuse Phase I and II, Town of Newburg Waterline Extension Feasibility Study, I.D. No. 392; Webster County Point Mountain Waterline feasibility Study, I.D. No. 384; Greenbrier Hollow Refuse; Sauls Run (Carpenter) Landslide; Pageton (Lambert) Portals; **WVDEP Mapping Contract - South Region (2011-2012)**; Birds Creek #4; Bergoo Waterline Extension Feasibility Study, I.D. No. 351; Lewis County EDA Waterline Extension Feasibility Study, I.D. No. 374; Scott Road and Findley Road Waterline Extension Feasibility Study, I.D. No. 356; Birds Creek Number 4; **WVDEP Mapping Contract – South Region (2008-2011)**; **WVDEP Mapping Contract – North Region (2008-2011)**; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Hampton Number Four Maintenance; Howesville Sites, Sandy Run Highwall and Portals; Wilsie-Rosedale Waterline Extension Feasibility Study – I.D. No. 324; Laurel Valley (Daniels) Landslide; Price Hill Airshaft/Buildings; Weaver Portals and Highwall, Phase I and II; Old Bridgeport Hill Mine Drainage, Phase II; Nixon Run AMD; Arlington (Cox) Drainage; Fairmont (Hendrickson) Subsidence; Tunnelton (Dillsworth) Landslide; Sauls Run Strip and Landslide; Taylor Waterline Extension Feasibility Study-I.D. No. 309; Poplar Ridge Waterline Extension Feasibility Study-I.D. No. 298; Summit Park Waterline Extension Feasibility Study-I.D. No. 288; Hodgesville PSD Waterline Extension Feasibility Study-I.D. No. 275; McElwain Waterline Feasibility Study-I.D. No. 271; Bridge Run; Camp Run; Philip Thorn Highwall; Rainelle AML; SCS Reclamation; Shegon Refuse Pile; Taylor Creek Tipple Complex; Tibbs Run Portal; Masontown AML.

Ohio AML Experience: Flint Run East Acid Mine Drainage Reclamation Project; Murray City AMD and Art Project; Danchart Acid Mine Drainage Reclamation; Ferris Forfeiture; Flint Run Acid Mine Drainage Reclamation; Glen Castle Reclamation; Lake Milton Investigation; Linden Acid Mine Drainage Bioremediation; Midvale Coal Number 7; Misco Burning Gob; Nutters Tipple D-716.

Related AML Design: SPEC REC: Glady Fork Mining Permit D-35-82; **WVCA:** Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Kraut Creek H&H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project. Various waste permits for Corridor H (15 permits), numerous topographic and property surveys, Pope Properties Waterline and Wastewater Extension, Nitro, WV

Education (Degree, Year, Specialization): CADD Operators – varies

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:	Registration (Type, Year, State): N/A
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ATTACHMENT "B" - MAPPING SERVICES IN NORTHERN WEST VIRGINIA – KEY PERSONNEL RESUME'S

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE
4 Survey Crews (6 Survey Crews Pittsburgh)	YEARS OF SURVEYING AND MAPPING EXPERIENCE: Varies

Brief Explanation of Responsibilities: Four (4) fully equipped survey crews can obtain field data to develop topographic mapping or to supplement available aerial mapping. These crews can also use GPS survey techniques to bring horizontal and vertical control to the Project site or control for aerial photography operations. All filed data is electronically gathered, to eliminate errors and blunders, and can be directly downloaded into our computer workstations. Field to finish modules of our SurvCADD software recognize field entered codes that control line work ensuring proper points are connected, proper break lines area established prior to contour generation, and greatly reduces CADD time.

AML experience: Camden (Hartley) Dangerous Landslide; Shinns Run Portals; Special Rec. Multiple Projects; CADD Services Contract, Norton Highwall #1; Tub Run Highwall and Refuse Phase I and II, Town of Newburg Waterline Extension Feasibility Study, I.D. No. 392; Webster County Point Mountain Waterline feasibility Study, I.D. No. 384; Greenbrier Hollow Refuse; Sauls Run (Carpenter) Landslide; Pageton (Lambert) Portals; **WVDEP Mapping Contract - South Region (2011-2012)**; Birds Creek Number 4; **WVDEP North Mapping Contract (2008-20011)**; **WVDEP South Mapping Contract (2008-2011)**; Church Creek/Manown Highwall; Racine (Bradshaw) Portals; Hampton Number Four Maintenance; Howesville Sites, Sandy Run Highwall and Portals; Laurel Valley (Daniels) Landslide; Price Hill Airshaf/Bldings; Weaver Portals and Highwall, Phase I and II; Old Bridgeport Hill Mine Drainage, Phase II; Nixon Run AMD; Arlington (Cox) Drainage; Fairmont (Hendrickson) Subsidence; Tunnelton (Dillsworth) Landslide; Sauls Run Strip and Landslide; Taylor Waterline Extension Feasibility Study-I.D. No. 309; Poplar Ridge Waterline Extension Feasibility Study-I.D. No. 298; Summit Park Waterline Extension Feasibility Study-I.D. No. 288; Hodgesville PSD Waterline Extension Feasibility Study-I.D. No. 275; McElwain Waterline Feasibility Study-I.D. No. 271; Bridge Run; Camp Run; Philip Thorn Highwall; Rainelle AML; SCS Reclamation; Shegon Refuse Pile; Superior Hydraulics; Taylor Creek Tipple Complex; Tibbs Run Portal; Masontown.

Ohio AML Experience: Flint Run East Acid Mine Drainage Reclamation Project; Murray City AMD and Art Project; Danehart Acid Mine Drainage Reclamation; Ferris Forfeiture; Flint Run Acid Mine Drainage Reclamation; Glen Castle Reclamation; Lake Milton Investigation; Linden Acid Mine Drainage Bioremediation; Midvale Coal Number 7; Misco Burning Gob; Nutters Tipple D-716.

Related AML Design: SPEC REC: Gladly Fork Mining Permit D-35-82; **WVCA:** Fisher-Mill Creek Bank Stabilization, Laurel Lake Sediment Removal, Kraut Creek H&H Investigation, Harmons Creek Bank Stabilization, Parchment Valley Bank Stabilization, North Fork Hughes River Bank Stabilization, Spencer Flood Plain Improvement Study, Logan County Flood Plain Improvement Project; various waste permits for Corridor H (15 permits), numerous topographic and property surveys, Pope Properties Waterline and Wastewater Extension, Nitro, WV

Education (Degree, Year, Specialization): 4 Party Chiefs – Associate Degrees Civil Engineering or Surveying Technology.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:	Registration (Type, Year, State): Four (4) RPS – West Virginia
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ATTACHMENT C

COMPANY INFORMATION

Company Overview

Civil & Environmental Consultants, Inc. (CEC) provides comprehensive industry-focused consulting services that advance client strategic business objectives.

Consistently ranked among the Top 500 Design Firms and Top 200 Environmental Firms by *Engineering News-Record*, CEC is recognized for providing innovative design solutions and integrated expertise in the primary practice areas of civil engineering, ecological sciences, environmental engineering and sciences, waste management and water resources.

Safety First

CEC believes that all accidents are preventable and is committed to creating an accident and incident free workplace for employees and subcontractors through training, safe work practices, and processes for assessing project hazards. CEC strives for safety excellence throughout our entire organization and holds employees and subcontractors accountable for the safe performance of their work. Safety is a key element of CEC's Strategic Plan and is represented by our Accident and Incident Free program.

Industry Oriented

Multi-disciplined Industry Consulting Groups (ICGs) are derived from the primary practice areas to strategically focus on the business challenges and drivers of the manufacturing, mining, natural gas, power, public sector, real estate and solid waste industries. Each of these diverse teams is a conduit to the latest thinking and advancements in the industries we serve, allowing CEC to provide clients with concise, timely information and regulatory updates to facilitate informed decision-making.

Employee Owned

CEC's employee-owners are highly motivated by the link between our success and that of our clients. Our continuing growth reflects client confidence in the work of our employees, who are guided by three core business principles:

- Senior Leadership
- Integrated Services
- Personal Business Relationships



Multi-Disciplined

Headquartered in Pittsburgh, Pennsylvania, CEC is an expanding company with:

- Civil Engineers
- Geotechnical Engineers
- Environmental Scientists
- Environmental Engineers
- Chemical Engineers
- Geologists
- Hydrogeologists
- Hydrologists
- Ecologists
- Biologists
- Wetland Scientists
- Threatened & Endangered Species Experts
- Agronomists/Soil Scientists
- Emissions Testing Professionals
- Chemists
- Archaeologists
- Construction Managers & Inspectors
- Environmental Technicians
- Treatment Plant Operators
- Land Surveyors
- Landscape Architects
- GIS Analysts & Programmers

PRACTICES

- Civil Engineering*
- Ecological Sciences*
- Environmental Engineering and Sciences*
- Waste Management*
- Water Resources*

INDUSTRIES

- Manufacturing*
- Mining*
- Natural Gas*
- Power*
- Public Sector*
- Real Estate*
- Solid Waste*

Company Overview

Civil Engineering

- Erosion & Sedimentation Control/ NPDES Permitting Predevelopment Site Investigations
- GPS/GIS Services
- Landscape Architecture/Land Planning
- Geotechnical Engineering
- Site Grading/Earthwork Analysis
- Expert Witness Testimony
- Roadway Design and DOT Permitting
- Stormwater Management/BMP Design
- Utility Design
- Sustainability Planning/Design
- Construction Services
- Integrated Project Delivery
- Site Infrastructure Maintenance/Rehabilitation
- Topographic Surveys
- ALTA ACSM Land Title Surveys
- Boundary Retracement Surveys
- Horizontal & Vertical Control Surveys
- Volumetric Surveys
- Construction Surveys
- Oil and Gas Pipeline Surveys
- Highway R/W Surveys
- As-built Surveys
- LIDAR Surveys

Ecological Sciences

- Wetlands and Waters Delineations
- Clean Water Act, Section 401/404 Permitting
- Wetland & Stream Impact Mitigation Design
- Ecosystem Restoration
- Wetland AMD Treatment
- Fish & Macroinvertebrate Surveys
- Bathymetric/Hydrographic Surveys
- Expert Witness Testimony
- Water Quality & Sediment Surveys
- Threatened & Endangered Species Surveys/ Wildlife Surveys
- Clean Water Act, 316 (a) & (b) Permitting
- Aquatic & Terrestrial Habitat Surveys
- Ecological Risk Assessment & Land Restoration
- Soil Science & Phytoremediation

Environmental Engineering and Sciences

- Air Emissions Testing & Permitting
- Greenhouse Gas Reporting
- Air Dispersion Modeling
- Phase I & II Assessments
- Site Characterization
- Property Condition Assessments
- Risk Assessments
- Auditing & Compliance Plans
- RCRA/CERCLA
- Soil/Groundwater Remediation Systems
- Brownfield Redevelopment Services
- Hydrogeology & Groundwater Modeling
- Storm Water Sampling & Permitting
- NPDES Permitting Support
- Expert Witness Testimony
- Cultural Resource Management
- Architectural History (Above-ground) Resource Investigations
- Archaeological Investigations
- FERC Applications/Certification

Waste Management

- Landfill Design & Permitting
- Transfer Station Design & Permitting
- Waste Characterization Studies
- Landfill Gas Management
- Geotechnical Engineering
- Renewable Energy Processes
- Air Compliance & Permitting
- Expert Witness Testimony
- Leachate Treatment & Control
- O & M of Control Systems
- Construction Services
- Site Selection and Characterization
- Hydrogeologic Site Investigations
- Environmental Monitoring/Compliance Support
- Coal Combustion Product Management

Water Resources

- Stormwater BMP Design & Inspections
- Compliance Audits
- NPDES Permit Negotiation
- Watershed Planning & Restoration
- Flood Routing and FEMA Map Revisions
- TMDL Modeling & Monitoring
- Stream Assessments & Restoration
- Expert Witness Testimony
- Water Quality & Quantity Modeling
- Low Impact Development Design
- Erosion & Sediment Control Design and Inspection
- Water Quality BMP Testing
- Waste Water and Leachate Treatment
- Stormwater Piping & Culvert Inspections

LOCATED NATIONWIDE

- Austin, TX*
855.365.2324
- Boston, MA*
866.312.2024
- Bridgeport, WV*
855.488.9539
- Charlotte, NC*
855.859.9932
- Chicago, IL*
877.963.6026
- Cincinnati, OH*
800.759.5614
- Columbus, OH*
888.598.6808
- Detroit, MI*
866.380.2324
- Export, PA*
800.899.3610
- Indianapolis, IN*
877.746.0749
- Knoxville, TN*
865.977.9997
- Nashville, TN*
800.763.2326
- Philadelphia, PA*
888.267.7891
- Phoenix, AZ*
877.231.2324
- Pittsburgh, PA*
800.365.2324
- Sayre, PA*
877.389.1852
- Sevierville, TN*
865.774.7771
- St. Louis, MO*
866.250.3679
- Toledo, OH*
855.274.2324

LIDAR

CEC provides a wide range of land surveying services with a full complement of cutting-edge technology, including 3D laser scanners using terrestrial Light Detection And Ranging (LiDAR) scanning to create spatial imaging.

CEC utilizes the latest technology in ground-based 3D laser scanning with GPS to provide solutions to our clients' most unique survey needs.

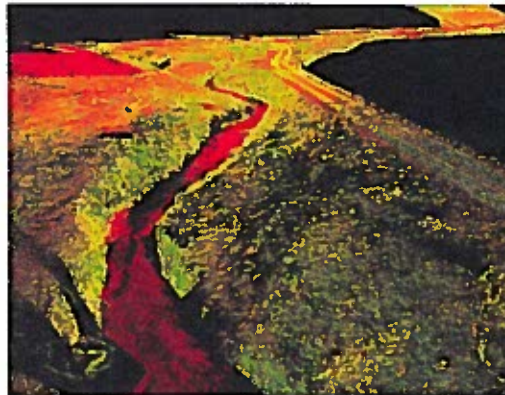
Using LiDAR, CEC can create an extremely detailed and dimensionally accurate 3D image using millions of acquired intelligent data points on a project site. Downloaded directly to a laptop at the site, LiDAR generates the 3D model in real time allowing immediate decision-making ability.

Mobilization

With ease of portability and setup, and decreased data processing and clean-up time, LiDAR scanning provides significant time savings versus traditional land surveying techniques. The use of LiDAR technology also enables increased safety by minimizing the need to send crews into dangerous spaces or high-traffic areas and roadways. Plus, the data can be revisited and new survey information can be retrieved based on client needs without having to remobilize to the field.

Broad Application

Through the use of LiDAR, CEC can efficiently capture high-definition field data that enhance a broad range of land surveying and engineering projects from architectural



and building surveying to industrial mapping of intricate sites and structures to forensics and accident reconstruction.

- As-builts for architectural and commercial projects, industrial facilities, landfills, water treatment plants, power plants, electric substations, and oil and gas well pads and pipelines
- Horizontal and vertical clearances for roadways, bridges, and structures
- Detailed earthwork volumes and quantities
- Before-and-after dredging scans to calculate quantity for dry basins and ponds
- DOT surveys for traffic and highway structures, installations, and appurtenances
- Tunnel and mine scanning

Technology

CEC utilizes both "Phase Based Scanners" and "Time of Flight Scanners." The performance of these scanners can capture objects up to and more than 1,000 feet away, and in direct sunlight. Typical deliverables are intensely accurate and include:

- 2D CAD Data in plan, elevation, or cross-sectional view
- 3D CAD Data
- Animated fly-throughs of the point cloud
- Text, RCS, DXF, TIN, or XML file of the point cloud



PRACTICES

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Ecological Sciences
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Water Resources

INDUSTRIES

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Mining
Natural Gas
Power
Public Sector
Real Estate
Solid Waste

Unmanned Aerial Vehicle (UAV) Applications

With a Section 333 grant from the FAA, CEC can offer this new and exciting technology for a wide range of data acquisition applications to benefit commercial and industrial clients. UAVs are fast, inexpensive, safe and accurate.

Aerial Photography

Armed with the ability to capture 14 megapixel photos or record 1080p HD video from a unique vantage point, a typical UAV data file can contain 10 to 30 million points due to lower flight heights and high-resolution photographs compared to a conventional aerial survey data file that can contain up to 50,000 points. Aerial photographs can be used to display time-lapse project progress, monitor remote locations or provide photography to be used in presentations, displays or advertising.



Right-of-Way Monitoring

UAVs can be used to visually monitor rights-of-way for both overhead and underground utilities to determine if revegetation efforts have been successful, or if there is evidence of earth movements such as slumps and slides, or if there is vegetative intrusion into overhead utility lines. UAVs can be flown manually by an operator in visual contact with the UAV, and they can also be pre-programmed to fly a given flight path.

Geographic Information Systems (GIS)

The ability to shoot high-quality, geotagged photos allows for real-time GIS data acquisition and eliminates the need to contract aircraft or work around other schedules. UAVs can collect imagery that can be imported into CADD programs and GIS databases, or stitched together to generate 3D reconstructions or develop topographic and aerial base mapping.

Visual Inspections

The ability to fly in close proximity to, and optically zoom in on, a target means that visual inspections of difficult-to-access objects or structures, such as stacks, bridges, reaction towers, pipe racks, etc., can be accomplished quickly and safely from a distance. The high-resolution and HD-quality visual images can then be downloaded and electronically transferred to a host of users.

Volume Determinations

UAVs can be used to rapidly fly over raw material stockpiles and excavation areas to calculate volumes, or to determine waste placement volumes at landfills and assess remaining available air space.

Thermal Imagery

UAVs can be outfitted with infrared cameras capable of capturing thermal signatures from wastewater discharges from cooling towers, heat loss from buildings and equipment, groundwater seeps and springs, and other heat signatures.

Precision Agriculture

To help maximize crop yields and assess environmental conditions for agriculture and environmental projects, Normalized Difference Vegetation Index (NDVI) images can be used to monitor soil composition and vegetative health, as well as measure and monitor plant growth, vegetation cover and soil/water condition, and biomass production. These NDVI images can be created much more frequently and at a lower cost than through the use of satellites or airplanes.

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Land Surveying

With a seasoned team of registered professionals and experienced survey staff, CEC offers a full range of land surveying services. We continuously upgrade our professional services with cutting-edge technology and equipment that meets the changing needs of our clients.

CEC surveyors have completed numerous projects requiring topographic, boundary, construction, hydrographic, geodetic, route, and settlement and displacement surveys. CEC maintains a full complement of equipment, including RTK and static GPS, robotic and conventional Total Stations, automatic and digital levels, data collectors, and 3D laser scanners that use terrestrial LIDAR scanning to create spatial imaging.

Robust professional capabilities, specialized experience, and technical competence and capacity allow CEC to provide the following services:

Horizontal and Vertical Control Surveys

CEC's experience includes photogrammetric control, monitoring stations for lakes and dams, site development, earthwork; utility, roadway and bridge construction control, waterway channel alignment, towers and transmission lines, and oil and gas well pads and pipelines.

Topographic Surveys

CEC employs various topographic techniques depending on site characteristics and requirements, such as terrain, vegetation, desired accuracy and physical improvements.

Construction Surveys

Many of these surveys include surface/subsurface utilities, stakeout of roads, bridges, runways, buildings, parking lots, fuel lines, storage tanks, towers, gas well pads, and midstream pipelines. Work also has included experience in construction surveys of upland disposal sites, locks and dams, rivers, lakes, and canals, as well as sedimentation surveys.



Boundary and Land Title Surveys

CEC has completed boundary surveys and mapping for parcels in our service areas and beyond, including American Land Title Association (ALTA) surveys, mortgage surveys, annexations, zoning, highway right-of-way plans, subdivision platting, gas well plats, and condominium documents.

Volumetric Surveys

CEC is experienced with performing volumetric computations pertaining to excavation and landfill operations. Projects range from mass excavations of commercial sites and landfills to small building pads.

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