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

State of West Virginia **Solicitation Response**

Proc Folder:	1523821				
Solicitation Description:	AML - EOI Morgantown Airport Subsidence Phase II				
Proc Type:	Central Purchase Order				
Solicitation Closes		Solicitation Response	Version		
2024-10-29 13:30		SR 0313 ESR10282400000003037	1		

VENDOR					
000000232671 TETRA TECH INC					
Solicitation Number:	CEOI 0313 DEP2500000001				
Total Bid:	0	Response Date:	2024-10-28	Response Time:	14:29:13
Comments:					

FOR INFORMATION CONTACT THE BUYER Joseph E Hager III (304) 558-2306 joseph.e.hageriii@wv.gov Vendor 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	EOI Engineering Desig	n Services				0.00
Comm	Code	Manufacturer		Specifica	ation	Model #
811000	000					

Commodity Line Comments:

Extended Description:

EOI Engineering Design Services



October 28, 2024

Mr. Joseph E. Hager III Department of Administration, Purchasing Division 2019 Washington Street East Charleston, WV 25305-0130

Re: EOI-AML Morgantown Airport Subsidence Phase II CEOI 0313 DEP2500000001

Dear Mr. Hager,

Please find enclosed Tetra Tech's Expression of Interest (EOI) for the AML Morgantown Airport Subsidence Phase II CEOI 0313 DEP2500000001.

Tetra Tech has completed numerous similar mine reclamation and remediation projects in the past for numerous clients which include, but not limited to, landslide analyses design/remediations, design of portal seals, reclamation of coal refuse sites, highwall elimination, drainage design, mitigation of AMD drainage, and design or drainage facilities associated with the mining industry. Individual personnel to be assigned to these projects have as much as forty (40) to forty-five (45) years' experience in the mining industry addressing these items.

If you should have any questions or concerns please contact me at <u>eric.cavazza@tetratech.com</u> or via phone at (412) 522-9764.

Sincerely,

nie C. Cwongen

Eric Cavazza, P.E., M.S. Project Manager

EEC Enclosures



Morgantown Airport Subsidence Phase II -EOI

Attachment A

Attachment B

WVDEP-AMLR EOI – Morgantown Airport Subsidence Phase II

1 Background

Tetra Tech has extensive experience in the remediation and resolution of Civil/Mining Engineering projects.

Upon receipt of the formal notice to proceed, Tetra Tech would attend an on-site project kick-off meeting at the site with WVDEP and Morgantown Regional Airport (MGW) personnel to discuss the project issues and work plan to reach a consensus on the technical approach for the site. The kick-off meeting would also provide the opportunity for WVDEP personnel to express to Tetra Tech their concerns, objectives, and initial thoughts on the project for discussion. Upon completion of the on-site project kick-off meeting a *Document of Understanding* will be prepared by Tetra Tech for the Project Area for review and input by WVDEP to create a work plan and goal-oriented document for the project.

Base mapping will be required for the project. It is Tetra Tech's assumption the mapping will be provided for the project, in which case, some additional checks, spot locations, and potential additional feature items may be required to be located for design purposes. If the base mapping is to be developed by Tetra Tech, a sub-contracted surveying company will be utilized for these services.

Based on the initial and available information, a preliminary conceptual plan will be prepared for review by WVDEP personnel. The preliminary conceptual plan will identify the general layout of the site, specific issues identified, areas of additional concern, and in the case of land stability issues (mine subsidence prone area), overburden borehole locations associated with the proposed geotechnical investigation. A geotechnical evaluation plan will be developed for the site in order to address issues identified by the WVDEP/Tetra Tech/MGW team members.

The requested responses to the project goals and objectives as stipulated within the EOI are listed below:

Location: The project is located at the Morgantown Airport, in Monongalia County, WV, State Route 119.

2 Projects and Goals

The project is to stabilize a mine subsidence susceptible area at the Morgantown Airport. This include a geotechnical investigation to determine mine extents and to design a drilling and grouting plan to stabilize the area.

2.1. Geotechnical Investigation

In order to develop the construction plans and technical specifications for the mine void grouting, the development and implementation of a geotechnical investigation plan would be completed. The specific methods and locations for geotechnical evaluation will be coordinated with WV DEP and the Morgantown Regional Airport. The geotechnical plan would consist of the drilling and coring in the area of concern. Tetra Tech will provide a geotechnical engineer and/or geologist on site during all drilling operations. The number, locations, and depths of borings would be dependent on the abandoned mine footprint. Since the site consists of an active airport with runways, taxiways, and other associated infrastructure, angle drilling may also be included to avoid or minimize impacts to the airport facilities. Any borings which encounter voids would be videoed with a borehole camera to better assess the subsurface and abandoned mine conditions. In addition to overburden coring, the geotechnical evaluation of the site may include geophysical surveys to identify subsurface voids. The extent and locations of any perched aquifers as well as elevation of phreatic surfaces at the completion of the drilling and 24 hours thereafter will also be determined. Any necessary soil testing would be completed by Tetra Tech's in-house soil laboratory located in Morgantown, West Virginia.

2.2 Drilling and grouting of mine workings to stabilize specified areas at the airport

A detailed analysis of the subsidence prone area will be performed. Drilling information coupled with geophysical study results (if obtained) and underground mine maps of the project area will be evaluated to develop a drilling pattern and best grout mixes for various subsurface conditions. Following the grouting project, confirmation drilling will be specified to ensure satisfactory grouting and stabilization has occurred. A couple of versions of existing mine maps for the mining conducted under the airport area have been located by Tetra Tech and will be reviewed. Plans for mine working stabilization will be made for the unique ground conditions observed. For perimeter areas located near the coal seam outcrop mine void stabilization measures may include backfilling subsidence depressions and open caveholes, and excavation and backfilling of mine voids. For the majority of the project site, it is anticipated that drilling and grouting of mine voids will be carried out. Some angle drilling may be included to avoid impacts to active runways and taxiways to the extent practicable.

Construction drawings and specifications will be developed based on the design concept approved by WVDEP and in conformance with the WVDEP Guidelines for Preparation of Design Plans & Specifications. Drawings will be 24" x 36" format and produced from base mapping files in AutoCAD 2019 format. Final drawings and specifications will be provided for use for review by WVDEP and for use by the selected contractor. Plans and specifications will be prepared.

Detailed specifications will be prepared in a manner compatible with the WVDEP contracting documents and consistent with base specifications available from the WVDEP website. Complete technical specifications in Microsoft Word will be provided with the final submission.

2.5 Temporary batch plant location, access routes, etc.

Tetra Tech will coordinate with Morgantown Municipal Airport (WGW) to locate a temporary batch plant and all access for both vehicles and grout lines. Tetra Tech will provide a qualified resident project representative, QA/QC certification, and prepare daily field activity logs summarizing construction activities.

Temporary and permanent access and plant locations will be designed utilizing AutoCad software. Plan view, designed profile, and roadway cross sections shown at an appropriate interval will be prepared and will be included within the final drawing package. Typical sections will be shown to indicate design features such as roadway cross slopes, pavement composition (gravel, asphalt, or concrete) and thickness, side slopes of embankments/cut slopes and proposed ditching. The roadway and plant location will be designed in accordance with WVDEP mining and reclamation standards, or other standards as determined by WVDEP and/or the Morgantown Municipal Airport or FAA. Final design of any roadway will attempt to design the roadway to a balanced cut/fill situation, if possible. Cut and fill quantities will be listed on the plans.

2.4 Obtain/maintain/release all required permits.

Tetra Tech will prepare and submit to obtain the required permits as determined at the Pre-Design Meeting. Required permit applications will be prepared for submittal for the project. All required plans, specifications and required additional data will be included within the application. Required permits may include the following:

- US EPA Class I or V Underground Injection Control (UIC) Permit, if required
- 401/404 Stream and Wetland Permits, if required
- Construction Stormwater General Permit
- WVDOH Occupancy Permit (Driveway Permit)
- NPDES Modification
- Any other local, state, or federal permit identified as being required for the project

2.5 Safety plans, scheduling, restrictions, etc., as required by the Airport and FAA

Tetra Tech will prepare all plans and schedules within the required regulations of the Airport and the FAA to ensure limited disruption to the operations of the airport. Safety plans for staff and contractors will be developed in coordination with the Morgantown Regional Airport and the FAA and strictly followed to ensure the safety all of all persons working at the project site, airport personnel, and the travelling public.

W	EST VIRG	INIA DEPARTMEN	IT OF ENVIRONMEN	NTAL PROTECTIO	N
	AML	CONSULTANT QU	ALIFICATION QUE	STIONNAIRE	Attachment "A"
PROJECT NAME EOI - Morgantown Airport Subs Phase II	idence	DATE (DAY, MONTH 29, October 2024	H, YEAR) 4	FEIN 95-414851	L 4
1. FIRM NAME Tetra Tech, Inc		2. HOME OFFIC 947 Canyon 26508	CE BUSINESS ADDRES n Rd, Morgantown,	S 3. FORMER WV	R FIRM NAME
4. HOME OFFICE TELEPHONE 304-212-3600	5. EST. 196	ABLISHED (YEAR) 6	6. TYPE OWNERSHIE Corporation		6a. WV REGISTERED DBE (Disadvantaged Business Enterprise)
7. PRIMARY AML DESIGN OFFI Morgantown, 947 Canyon Pittsburgh, 661 Anderse	CE: ADDRES Rd, Morgan n Dr, Pitt	S/ TELEPHONE/ PE town, WV 26508/30 sburgh, PA, 15220	RSON IN CHARGE/ NO 04-534-4021/Jacqui 0/412-921-7090/Jac	. AML DESIGN PEF e Brody, PE/ 10 quie Brody, PE/1	RSONNEL EACH OFFICE People
8. NAMES OF PRINCIPAL OFFI Mr. Mark Perry, PE - Un	CERS OR MEI it Preside:	MBERS OF FIRM nt	8a. NAME, TITLE, Mr. Eric Cavazza,	& TELEPHONE NUM PE - VP/Projec	BER - OTHER PRINCIPALS t Manager - 412-522-9764
 9. PERSONNEL BY DISCIPLINE ADMINISTRATIVE 2012 ARCHITECTS 130 BIOLOGIST 300 CADD OPERATORS 170 CHEMICAL ENGINEERS 304 CIVIL ENGINEERS 588 CONSTRUCTION INSPECTORS61 DESIGNERS DRAFTSMEN 200 TOTAL NUMBER OF WV REGI *RPEs other than Civil supervise and perform time 	— ECOLOG — ECONOM — ELECTR — ENVIRO — ESTIMA — GEOLOG — HISTOR — HISTOR — HYDROL STERED PRO and Mining his type or	ISTS 152 ISTS 138 ICAL ENGINEERS 0 NMENTALISTS 746 TORS 271 SISTS 367 IANS 3 OGISTS 115 FESSIONAL ENGINER must provide sup f work.	 LANDSCAPE MECHANICAL MINING EN PHOTOGRAMM PLANNERS: URBAN/REGI SANITARY E SOILS ENGI SPECIFICAT WRITERS ERS IN PRIMARY OFF Sporting documenta 	ARCHITECTS 19 ENGINEERS 70 GINEERS 70 ETRISTS 12 ONAL96 NGINEERS70 NEERS 34 ION 140 ICE: 7 tion that qualit	 STRUCTURAL ENGINEERS 98 SURVEYORS 60 TRAFFIC ENGINEERS OTHER 13,714 TOTAL PERSONNELL 20,000 Personnel Company Wide Eies them to
10. HAS THIS JOINT-VENTURE WO	RKED TOGET	HER BEFORE?	XX YES		

11. OUTSIDE KEY CONSULTANTS/SUB-	-CONSULTANTS ANTICIPATED TO BE USED. Attach "A	ML Consultant Qualification
NAME AND ADDRESS: Dieffenbauch & Hritz LLC 1095 Chaplin Road Suite 200 Morgantown, WV 26501	SPECIALTY: Surveying Services	WORKED WITH BEFOREX_Yes No
NAME AND ADDRESS: Core Drilling, LLC 620 Lincoln Avenue Bentleyville, PA 15314	SPECIALTY: Geotechnical Drilling	WORKED WITH BEFORE
NAME AND ADDRESS: Geotechnics 544 Braddock Avenue East Pittsburgh, PA 15112	SPECIALTY: Soil Testing	WORKED WITH BEFORE
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFOREYes No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFOREYesNo

12. A. Is your firm's personnel experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?

YES Description and Number of Projects: Tetra Tech has extensive experience with AML/Mine Reclamation Engineering. Tetra Tech is currently working on several AML projects in several states. Tetra Tech has also worked on AML related projects within the state of West Virginia. In the last 5 years Tetra Tech has performed 20+ of these types of projects.

B. Is your firm experienced in Soil Analysis?

YES Description and Number of Projects: Tetra Tech has a whole team dedicated to Geotechnical investigations including soil analysis. In the last 5 year this team has performed 20+ projects specifically associated with Soil Analysis.

C. Is your firm experienced in hydrology and hydraulics?

YES Description and Number of Projects: Tetra Tech has performed several project looking at hydrology and hydraulics, specifically Tetra Tech specializes in mine pool analysis and AMD treatment systems. In the last 5 years Tetra Tech has performed 20+ projects looking at hydrology and hydraulics.

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

YES Description and Number of Projects: Tetra Tech does produce its own Aerial Photography with the use of drone technology, and we use that photography to develop contour mapping. We use this service across all disciplines and industries with hundreds of flights and maps developed on a yearly basis. However, for most mining and AML projects, Tetra Tech contracts out this work.

E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

YES Description and Number of Projects: Tetra Tech's large size and extensive resources provides for skilled individuals in various disciplines, Tetra Tech does have experience in domestic waterline design in conjunction with other projects. Tetra Tech is currently working with several WV PSDs to design municipal waterline extensions to several lime dosers being replaced as part of WV AML Contract 9 North.

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: Tetra Tech has a whole team dedicated to Acid Mine Drainage projects, we are currently working on 5 projects specifically looking at AMD treatment with 10+ projects completed in the last 5 years.

 PERSONAL HISTORY STATEMENT OF PR data but keep to essentials) 	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete				
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE					
Cavazza, Eric E. P.E.	YEARS OF AML DESIGN EXPERIENCE: 40	YEARS OF AML RELATED DESIGN EXPERIENCE:40	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:				
Frief Explanation of Responsibilities Ar. Eric Cavazza has over forty (40) years of extensive experience administering state and federal environmental programs including extensive experience managing the development, design and construction of environmental restoration projects to eliminate hazards and restore environmental degradation associated with abandoned mine lands. He served as Pennsylvania's AML Program Director for 9 years before retiring from there in December 2020. Managed dozens of mine subsidence control projects including both area-wide and emergency drilling and grouting projects.							
EDUCATION (Degree, Year, Specializat BS, 1983 Mining Engineer/ MS, 1995 E	ion) nvironmental Engineering						
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS SME, ASRS		REGISTRATION (Type, Year, State) PE in PA (1989), WV (2022), KY (2023), OH (2023), and IN (2023)					
13. PERSONAL HISTORY STATEMENT OF PR data but keep to essentials)	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete				
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE					
Hynes, Gregory PE	YEARS OF AML DESIGN EXPERIENCE: 31	YEARS OF AML RELATED DESIGN EXPERIENCE:31	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:				
Brief Explanation of Responsibilitie	S						
Mr. Hynes has 31 years of professional engineering experience including utility pipelines and abandoned mine land reclamation. Additionally, he has designed and permitted numerous mine surface facilities, oil and gas well pad sites, potable water distribution systems, stormwater conveyance systems, sanitary sewerage systems, and developed E&S control plans.							
EDUCATION (Degree, Year, Specializat BE, 1987 Civil Engineer/ MS, 1997 Ci	ion) vil Engineering						
MEMBERSHIP IN PROFESSIONAL ORGANIZAT SME	IONS	REGISTRATION (Type, Year, Sta PE 1993 PA, PE 1998 OH, PE 19	ate) 998 WV				

 PERSONAL HISTORY STATEMENT OF PR data but keep to essentials) 	INCIPALS AND ASSOCIATES RESPO	NSIBLE FOR AML PROJECT DESIGN	(Furnish complete			
NAME & TITLE (Last, First, Middle Int.)		YEARS OF EXPERIENCE				
Sheehan, Mike	YEARS OF AML DESIGN EXPERIENCE: 25	YEARS OF AML RELATED DESIGN EXPERIENCE: 25	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:			
Brief Explanation of Responsibilitie Mr. Mike Sheehan has over twenty-fiv (13) years administering state envir and construction of environmental re associated with abandoned mine lands	s e (25) years of extensive exp onmental programs including e storation projects to elimina , forfeited mine lands and ab	erience in mining reclamation xtensive experience managing te hazards and restore envirc andoned landfills.	n, including thirteen the development, design onmental degradation			
EDUCATION (Degree, Year, Specializat BS, 1993, Environmental Protection S	ion) cience					
MEMBERSHIP IN PROFESSIONAL ORGANIZAT	IONS	REGISTRATION (Type, Year, St	cate)			
NAME & TITLE (Last. First. Middle Int.)		YEARS OF EXPERIENCE				
Yost, Gregory P.G.	YEARS OF AML DESIGN EXPERIENCE: 12	YEARS OF AML RELATED DESIGN EXPERIENCE: 12	YEARS OF DOMESTIC			
Brief Explanation of Responsibilitie	S					
Mr. Yost has experience with subsurface foundation design. Additionally, Mr. Yo of-way remediation, and landslide remed slopes, fill slopes, and landslide suscep strike, dip, and rock structure includin wetland areas and performing investigati	geotechnical investigations, in ost has construction experience of iation. His experience also en otible slopes. Mr. Yost has exper g joints, faults, and discontinui on in determining contamination	ncluding utilizing the informati comprising of well pads and comprising of well pads and comprision compasses the evaluation of slop ience analyzing rock formations f ties. Mr. Yost has experience w of both water and soil.	on obtained to implement in ressor pads, pipeline right- pe stability applied to cut for depositional environment, ith identifying and flagging			
EDUCATION (Degree, Year, Specializat BS, 2009, Geology	ion)					
MEMBERSHIP IN PROFESSIONAL ORGANIZAT	IONS	REGISTRATION (Type, Year, St PG, 2015 PA	ate)			

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE				
Mack, John, PE	YEARS OF AML DESIGN EXPERIENCE: 34	YEARS OF AML RELATED DESIGN EXPERIENCE:30	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:		

Brief Explanation of Responsibilities

Mr. Mack has over 32 years of experience in the mining industry. Currently, Mr. Mack provides technical assistance and mining engineering expertise for mining and abandoned mine reclamation projects on an as-needed basis. Mr. Mack served as a Mining Engineer for the federal Office of Surface Mining, Reclamation and Enforcement from 2000 until 2019. He served as primary lead on Pittsburgh Field Division (PFD) oversight projects and aspects of mine inspections that are principally engineering in nature. His Abandoned Mine Land (AML) Inspections commenced in 2014 while working on an Erosion and Sedimentation Study that included many on site reviews of Pennsylvania AML Projects. In 2015 and 2016, he conducted 23 AML Oversight inspections in Pennsylvania and 32 in Ohio and prepared detailed reports that discussed all aspects of state responsibility and compliance. Each inspection involved assurance that the states were in compliance with NEPA Policy and SMCRA Regulations. He conducted many ATP Reviews and prepared recommendations regarding AML Reclamation Projects in Ohio. He served for many years as a technical instructor for OSMRE including Tru Pulse 360B Range Finder and AML Design Workshops for Dangerous Openings, Mine Subsidence & Mine Fires that focused on investigation and various construction methods of abatement and the development of designs including specifications and cost estimates. He served as the primary lead for OSMRE in providing assistance to the States to improve their programs on engineering issues. Conducted detailed document and field research and prepared reports for The Regional Impoundment Breakthrough Study in Ohio, Pennsylvania and Kentucky. Provided the same work for The Regional Slope Stability Study in Ohio.

EDUCATION (Degree, Year, Specialization)

M.B.A., 1993, Business Administration, New Mexico State University

B.S. 1980, Mining Engineering, New Mexico Institute of Mining and Technology

MEMBERSHIP	IN	PROFESSIONAL	ORGANIZATIONS	
SME				

REGISTRATION (Type, Year, State) PE, 2011, PA

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES **RESPONSIBLE FOR AML PROJECT DESIGN** (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE			
Kearns, Michael PE, MS	YEARS OF AML DESIGN EXPERIENCE: 25	YEARS OF AML RELATED DESIGN EXPERIENCE: 25	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE: 40	

Brief Explanation of Responsibilities

Mr. Kearns has 40 years of professional engineering experience including diverse experience in the mining industry, utility pipelines, abandoned mine land reclamation. Additionally, he has designed and permitted numerous mine surface facilities, oil and gas well pad sites, potable water distribution systems, stormwater conveyance systems, sanitary sewerage systems, site development for industrial and commercial facilities, slope remediation analyses and has developed E&S control plans for hundreds of facilities.

EDUCATION (Degree, Year, Specialization) BS Civil Engineering 1977, MS Civil Engineering 1982

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONSREGISTRATION (Type, Year, State)ASCE (Life Member), NSPEPE - WV (1981), OH (1991), PA (1992), MD (2021)

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES
Microsoft Office Professional and Microsoft Project
Bentley Pond Pack (Haestad methods)
Adobe Photoshop
Adobe Acrobat
AutoCAD Map 3D
AutoDesk Civil 3D
ESRI ArcGIS
ESRI ArcView
Bently Flow Master (Haested Methods)
Bentley HEC-Pack
<u>STBL5M</u>
Groundwater Vistas
GMS
Autodesk Storm and Sanitary Analysis

SLIDE II STABILITY ANALYSIS PROGRAM

Carlson Civil/Survey

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD								
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE				
WVDEP Contract 9 AML Treatment Various Locations in West Virginia	WVDEP AMLR 1000 Technology Drive, Suite 3220, Fairmont, WV 26554	Prime Contractor	\$8 Million	25%				
Ashland North Mine Subsidence Evaluation and Control Project	KY DAML 300 Sower Blvd 2nd Floor Frankfort, KY 40601	Prime Contractor	Drilling and Design - \$450k Construction & Construction Oversight: TBD	80%				
East Bernstadt Mine Subsidence Evaluation and Control Project	KY DAML 300 Sower Blvd 2nd Floor Frankfort, KY 40601	Prime Contractor	Geophysics - \$100k; Drilling and Design: TBD; Construction & Construction Oversight: TBD	40%				
Enoco AML Coal Refuse Pile Project	Indiana AML 14619 W. State Road 48 Jasonville, IN 46204	Prime Contractor	Drilling, Testing, Alternatives Analysis and Conceptual Design: \$400k	25%				
Glenn Springs Holdings Bird Mine Treatment, Tire Hill Pennsylvania	Glenn Springs Holdings 5 Greenway Plaza, Suite 10 Houston, TX 77046	Prime Contractor: HRI, Inc. State College, PA	Confidential	90%				
Powelson Wildlife Area AML (Dangerous Highwall) Reclamation Project	ODNR-DMRM 2045 Morse Road Columbus, OH	Prime Contractor	Design and Permitting: \$205k	40%				
Keewaydin AML (Dangerous Highwall) Reclamation Project	PA DEP Bureau of Abandoned Mine Reclamation 286 Industrial Park Rd., Ebensburg, PA 15931	Prime Contractor	Design and Permitting: \$245k	30%				
TOTAL NUMBER OF PROJECT conducting thousands or purpose of the EOA only	S: Tetra Tech is current projects nationwide for a sample is provided	ly TOTAL ESTIM	ATED CONSTRUCTION COSTS:	\$+15 Million				

16. CURRENT ACTIVIT	IES ON WHICH YOUR FI	RM IS SERVING AS A S	UB-CONSULTANT TO OTH	ERS							
PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST							
				ENTIRE PROJECT	YOUR FIRMS RESPONSIBILITY						
NA	NA	NA	NA	NA	NA						

17. COMPLETED WORK WITHIN LAS	T 5 YEARS ON WHICH YOUR FIRM WA	AS THE DESIGNATED ENGINEER OF RECOR	D	
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
WVDEP OSR Royal Coal Bond Forfeiture Fayette County WV	WVDEP OSR 1159 Nick Rahall Greenway Fayetteville, WV 25840	\$250,000	2023	Yes
Pell Run Doser Upgrade Project, Preston County WV	WVDEP AML 101 Cambridge Place Bridgeport, WV 26330	\$750,000	2022	Yes
Gladden AMD Treatment Plant, South Fayette Township, Allegheny County PA	South Fayette Conservation Group 515 Millers Run Road Morgan, PA 15064	\$13.5 Million	2022	Yes
Kempton Sludge Disposal Line Garrett County MD	Maryland Department of the Environment 160 S Water Street Frostburg, MD 21532	\$385,000	2019	Yes
Blacklick Creek Treatment Facility	PADEP BAMR 400 Market Street Harrisburg, PA 17106	\$1.9 Million	2024	Yes
Jennings Run Doser, Design, Allegany County, MD	Maryland Department of the Environment 160 S Water Street Frostburg, MD 21532	\$59,000	2023	Yes
Gun Club Road Mine Drainage and Mine Pool Control Project	Maryland Department of the Environment 160 S Water Street Frostburg, MD 21532	\$591k	2023	Yes
Tetra Tech had conducted thousands or projects nationwide for the purpose of the EOA only a sample is provided				

18. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM HAS BEEN A SUB-CONSULTANT TO OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)											
PROJECT NAME, TY	PE NAME AND ADDRESS	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED	FIRM ASSOCIATED						
AND LOCATION	OF OWNER	OF YOUR FIRM'S PORTION		(YES OR NO)	WITH						
NA	NA	NA	NA	NA	NA						
19. Use this space	e to provide any additional	information or description of r	esources	supporting your	firm's						
qualifications	topsive knewledge and wast	resources to allow for a compreh	s Floglam	•	oroblom Totro						
Tetra tech has extensive knowledge and vast resources to allow for a comprehensive approach to any problem. Tetra											
strong presence in West Virginia in Merganteen and Charlesten (and seen to be expering a new office in Wheeling), with											
offices in Pittsburgh. PA and St Clairsville. OH regularly performing work in the state. The Tetra Tech Pittsburgh											
office has worked with WVDEP on several Special Reclamation projects throughout the state											
20. The foregoing	is a statement of facts.	· · · · · · · · · · · · · · · · · · ·									
Signature:	·AA		Date: 10-29-24								
	mc. lugge			_							
Printed Name: Eric	c E. Cavazza										

AML and RELATED PROJECT EXPERIENCE MATRIX																							
PROJECT		Additional Info Provided in Section (s) **		PROJECT EXPERIENCE REQUIREMENTS												PRI	PRIMARY STAFF PARTICIPATION/CAPACITY *** M=Management P=Professional						
	Exp. Basis C=Corp. P=Personnel *		Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Nitigation/Repla cement	Construction Inspection/Management	Water Treatment	Eq:uipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Eric Cavazza, PE	Gregory Hynes, PE	Gregory Yost, PG	Michaeal Kearns PE	Other Project Team Personnel	Other Tetra Tech Personnel
WVDEP Contract 9 AML Treatment	C&P	Yes		x		x					x	x	x	x			x	м	Р	p	Р	P	м
Ashland North Mine Subsidence Evaluation	C&P	Yes		x		x			x		x		x				x	М		Р		Р	М
East Bernstadt Mien Subsidence Evlaution	C&P	Yes		x		x			x		x						x	М		Р		Р	М
WVDEP Pell Run Doser	C&P	Yes				x					x			x		x	x			Р	Р	Р	М
Jennings Run Doser	C&P	Yes				x					x	x	x	x			x			Р		Р	М
PADEP Black Lick Creek	C&P	Yes			x	x					x			x			x	Р	М	Р		Р	М
Powelson Wildlife Area AML	C&P	Yes	x								x	x	x				x					Р	P
Keewaydin AML Reclamation	C&P	Yes	x			x					x		x			x		Р			М	Р	P
ENOCO AML Coal Refuse Pile	C&P	Yes	x			x					x	x	x				x	М		Р		Р	P
WVDEP Royal Coal Bond Forfeiture	C&P	Yes	x			x					x	x	x	x	x		x	Р			М	Р	P
Glenn Springs Holdins Bird Mine Treatment	C&P	Yes				x			x		x	x	x	x			x	м	P	Р		Р	P
Quakake Treatment Plant	C&P	Yes				x						x		x			x	М				Р	P
Gun Club Road Mine Drainage and Pool Control	C&P	Yes		x	x	x					x		x				x				M	Р	Р

* List whether project experience is corporate or personnel based or both.

** Use this area to provide specific sections or pages if needed for reference.

*** List Primary Design personnel and their functional capacity for the projects listed.