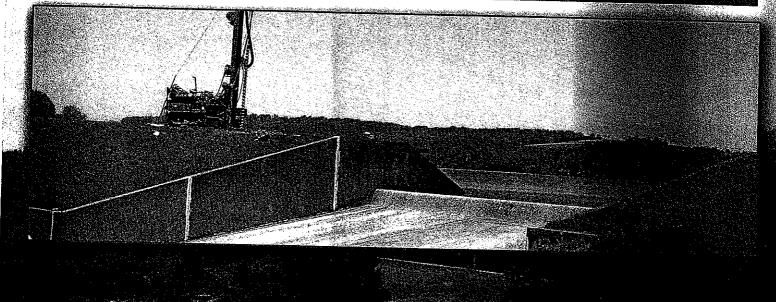
Expression of Interest



Cacapon Resort State Park Dams

Engineering Services, Construction Documents and Certificate of Approval Berkeley Springs, West Virginia

DNR #211007



Submitted to

West Virginia Department of Natural Resources

Parks and Recreation Section

Submitted by

Michael Baker Jr., Inc.

Baker

August 24, 2010

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REQUEST FOR QUOTATION



August 23 2010

Mr. Frank Whittaker
Department of Administration
Purchasing Division
Building 15
2019 Washington Street, East
Charleston, WV 25305-0130

RE:

Expression of Interest (EOI)
Cacapon Resort State Park Dams

Engineering Investigation and Certificate of Approval

DNR #211007

Dear Mr. Whittaker:

Baker is honored to have the opportunity to present our EOI for the Cacapon Resort State Park Dams Project. Baker is a full-service national engineering firm with expertise in dam rehabilitations, water resources, geotechnical, structural, and environmental engineering, which allows Baker to provide all of the engineering services that the West Virginia Division of Natural Resources, Parks and Recreation Section (WVDNR) requires. This not only helps reduce costs, but also provides faster response, reduced coordination and ultimately, cost savings to WVDNR. In addition, Baker has the ability to reach out within its organization to technical experts in the fields of water resources, geotechnical, structural, and environmental engineering, if needed, for a particularly challenging aspect of a project to ensure the correct technical approach is determined. These are just a few of the advantages of working with a national firm, such as Baker, who can offer a full range of engineering services to its clients.

We have included in our proposal, project descriptions for our most recent dam rehabilitation projects. These dams are the primary focal point for each of their respective recreational parks. For these projects, Baker conducted hydrologic and hydraulic modeling, geotechnical and structural analysis, worked with regulatory agencies as well as local agencies, provided construction administration and conducted public relations. These projects showcase Baker's ability to balance the need to protect critical infrastructure, while embracing a natural park setting. In addition, Baker received the 2009 Diamond Award from the American Council of Engineering Companies of Pennsylvania for the Latodami Nature Center Pond Rehabilitation given its unique incorporation of infrastructure protection in conjunction with enhancing educational opportunities for local residents.

Baker brings the best expertise to WVDNR. The Relevant Project Experience Matrix illustrates our relevant projects including engineering requirements to bring Cacapon Upper and Lower Dams into compliance with current Dam Safety Regulations. In addition, we are utilizing the staff that is currently completing our relevant projects, as shown in the Key Personnel Participation in Relevant Projects matrix. This ensures WVDNR that Baker is going to provide our best dam rehabilitation technical expertise for this project. When you combine this with our past work, Baker is hard to match!

If you have any questions regarding our proposal, please feel free to contact me at 724-495-4302, or Rusty Hall at 304.769.2154 and we will be happy to discuss them with you. Once again, Baker appreciates the opportunity to provide our proposal to help WVDNR protect some of West Virginia's most important infrastructure located within some of our best state parks and forests.

Sincerely,

MICHAEL BAKER JR., INC.

William D. Trimbath, PE

Vice President

Michael Baker Jr., Inc.

5088 W. Washington Street Second Floor Charleston, WV 25313

Phone: 304.769.0821 FAX: 304.769.0822

Russell E. Hall, PE

Assistant Vice President and Office Principal

Essell E Hall



Charleston, WV 25313

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

Request for Quotation DNRB11007

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FRANK WHITTAKER 304-558-2316

RFQ COPY TYPE NAME/ADDRESS HERE Michael Baker Jr., Inc. 5088 W. Washington Street Second Floor

DIVISION OF NATURAL RESOURCES PARKS & RECREATION SECTION

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Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130

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Michael Baker Jr., Inc. 5088 W. Washington Street

Charleston, WV 25315

Second Floor

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

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PRANK WHITTAKER

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DIVISION OF NATURAL RESOURCES PARKS & RECREATION SECTION

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PARKS & RECREATION SECTION

DIVISION OF NATURAL RESOURCES

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GENERAL INFORMATION



Expression of Interest for Cacapon Resort State Park Dams

GENERAL INFORMATION

CONTRACT INFORMATION

PROJECT TITLE AND LOCATION (City and State)

Cacapon Resort State Park Dams

Engineering Investigation and Certificate of Approval

PUBLIC NOTICE DATE

July 23, 2010

PIRM POINT OF CONTACT

PROJECT REPRESENTATIVE NAME AND TITLE

Jack Dziubek, PE, Project Manager

PROJECT Manager

PROJECT Manager

RFQ NUMBER

DNR #211007

PRESIDENT / CEO

Bradley Mallory

NAME OF FIRM

Michael Baker Jr., Inc.

TELEPHONE NUMBER	FAX NUMBER	E-MAIL ADDRESS
724.495.4186	724.495.4112	jdziubek@mbakercorp.com
COUNTY	FTID NUMBER	WEB ADDRESS
Beaver	25-1228638	www.mbakercorp.com

PROPOSED TEAM (Complete this section for the lead firm or joint venture partners, and all key consultants.) FIRM NAME ADDRESS ROLE IN THIS CONTRACT 4301 Dutch Ridge Road Beaver, PA 15009 Michael Baker Jr., Inc. 5088 W. Washington Street Second Floor Charleston, WV 25313 Michael Baker Jr., Inc.



TECHNICAL APPROACH



Project Team

To assist the West Virginia Department of Natural Resources, Parks and Recreation Section (WVDNR) in providing professional engineering services to bring the upper and lower dams into compliance with WV Dam Safety

Proven Dam Rehabilitation Team Committed to WVDNR

Regulations at the Cacapon Resort State Park Dams, Baker is proposing to utilize its already proven Dam Rehabilitation Team of highly skilled water resources, geotechnical and structural engineers. This team is successfully completing the rehabilitation design of five dams very similar to the Cacapon Resort State Park Dams and they are prepared to make this project successful for WVDNR. Baker not only has the experience, but also the depth and breadth of professional resources to provide WVDNR with a timely response to the needs of this contract.

Baker

Michael Baker Jr., Inc. (BAKER) was founded in 1940 as a civil engineering and surveying firm. Baker is now

one of the largest professional services firms, consistently ranked in the top 10% of engineering firms by the Engineering-News Record (ENR),

Baker Purpose Statement:
Creating value by delivering innovative and sustainable solutions for infrastructure and the environment.

recently placing 11th in water-related services, as published in the April 2010 issue of ENR. Today, Baker provides professional engineering and consulting services for its clients worldwide. Services span the complete life cycle of infrastructure and managed asset projects, including planning, design, construction services, asset management and asset renewal. The skills, talents and knowledge of our people are the real value in development of the innovative, sustainable solutions we provide to a broad spectrum of clients. Headquartered near Pittsburgh, Pennsylvania, Baker employs over 3,000 professionals in over 75 offices nationwide, including a Charleston, West Virginia office. Within the tri-state area, Baker has nine offices and employs nearly 900 professionals. Baker has been working with WVDNR since the late 1970's and has been providing a wide array of services including Dam Safety and Rehabilitation Design as well as Acid Mine Drainage and Abandoned Mine Reclamation. Baker's experience in dam safety, hydrologic and hydraulic modeling, geotechnical and structural analysis, experience with regulatory agencies, construction administration, and experience working with local agencies; including WVDNR, will be critical to the success of this contract. Baker is committed to delivering quality work on time and on budget.

Baker Organization

The organization is intended to provide WVDNR our best technical expertise with respect to your projects. Given that Baker is a full-service engineering firm; we can provide the services that WVDNR requires in-house. This not only helps reduce costs, but also provides faster response, reduced coordination, consistent quality and ultimately, cost savings to WVDNR. In addition, Baker has the ability to reach out within its organization to technical experts in the fields of water resources, geotechnical, structural, and environmental, if needed for a particularly challenging aspect of a project to ensure the correct technical approach is determined. These are just



a few of the advantages of working with a national firm such as Baker, who can offer a full range of engineering services to its clients.

As mentioned previously, Baker will utilize its proven Dam Rehabilitation Team of highly skilled Water Resources, Geotechnical and Structural engineers which is currently completing the rehabilitation design of five dams (included in the

Baker Team provides expertise in all of the relevant scope-of-work requirements.

Relevant Projects Section as Projects 1 through 5) which are very similar to Cacapon Resort State Park Dams and is prepared to make these projects successful for WVDNR. As shown by the Relevant Project Experience Matrix and the Key Personnel Participation in Relevant Projects, Baker provides expertise in all of the relevant requirements as set forth by the Expression of Interest. The organizational chart and a brief description of the key personal is included below. Full resumes are available within the Resumes of Key Personnel Section of this Expression of Interest.

Jack Dziubek, PE will serve as Project Manager and will be WVDNR's single point of contact. He will be responsible for coordinating the efforts of the team on your projects to ensure that they are completed on time and within budget. Mr. Dziubek has been

- 44 years of Experience
- Inspected over 100 dams
- 30+ Dam Rehabilitation Designs
- Past work with WVDNR

performing and managing geotechnical engineering and design projects for 44 years. Over the course of his career, he has inspected, as well as supervised the inspection of, more than 100 dams, including dams built for Pennsylvania Glass Sand in Berkeley Springs, West Virginia. Additionally, he has performed rehabilitation design for more than 30 dams; many of these dams were in park settings similar to Cacapon Resort State Park Dams. Mr. Dziubek's extensive experience also includes conducting geotechnical investigations for levees, hydraulic structures, mines, marine structures, buildings, and foundations. He also has managed public and private sector projects for the U.S. Army Corps of Engineers, U.S. Navy, state departments of transportation, and major industrial clients which have ranged from \$1,000,000 to \$10,000,000 and have required civil, geotechnical, mining and environmental engineering expertise. Mr. Dziubek has provided Senior Technical expertise for projects 1 through 9 listed in the Relevant Projects Section and is ready to lead the Baker Team. His extensive experience in dam inspection and rehabilitation design will ensure that WVDNR's projects are a success.

- Vice President
- Served as Principal-in-Charge for past WVDNR Projects

William Trimbath, PE will serve as the Principal-in-Charge. Mr. Trimbath oversees the Civil Engineering Group at Baker which is comprised of the civil, water resources, geotechnical, mining, municipal, and

telecommunications services. Mr. Trimbath has been with Baker for over 23 years and has served as the Principal-in-Charge for the past work with WVDNR as well as the projects 1 through 8 listed in the Relevant Projects Section. Through these projects, he has developed relationships with WVDNR and has established a level of trust that Baker will deliver its best and brightest resources for WVDNR to ensure the project is a success.



Larry Diday, PE, PLS will provide as QA/QC Review. Mr. Diday has worked for Baker for 43 years and is Assistant Vice President and the Engineering Manager of Baker's Civil Group. Mr. Diday has expertise in water resources, civil and environmental engineering investigations,

Assistant Vice President
43 years of Experience
Inspected and Designed Dams
Past work with WVDNR

design, project management, design review, technical analysis, and permitting, for various governmental, industrial and private sector clients. He has completed projects for public clients such as the WVDNR, U.S. Army Corps of Engineers, Federal Emergency Management Agency, and various counties and municipalities. In fact, he developed the conceptual design for Guilford Lake. He has performed and managed infrastructure design, conducted dam inspections and designed high-hazard dams, conducted flood insurance and flood protection studies, and prepared stormwater management plans and environmental permit applications for local, state, and federal agencies. Mr. Diday has served as Principal-in-Charge on projects 1 through 8 listed in the Relevant Projects Section and is ready to continue in this role for WVDNR.

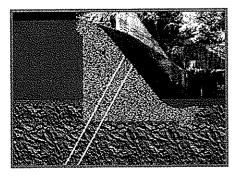
Chad Davis,
PE will serve
as the
Hydrology and

- Experience with WVDNR
- H&H Expertise in Dams
- Dam Rehabilitation Expertise
- Emergency Action Plans

Hydraulics Lead. Mr. Davis is a Water Resources Engineer with an expertise in hydrology and hydraulic modeling, dam design, spillway capacity analysis, overtopping protection design, dam



rehabilitation, Emergency Action Plans, construction oversight, stormwater drainage, channel stabilization/restoration, stormwater management, and utility relocations. He provided Hydrology and Hydraulics as well as civil engineering expertise for projects 1 through 8 listed in the Relevant Projects Section and is ready to lead the Hydrology and Hydraulics aspects of this project.



Donald Green, PE will serve as the Geotechnical Lead. Mr. Green is a Geotechnical Engineer with 32 years of geotechnical

- Geotechnical Analysis Expertise

- Embankment Stability Expertise

 Post Tensioned Anchor Expertise for Concrete Gravity Dams

consulting experience in dam inspection and design, geotechnical and environmental engineering, planning, laboratory and field investigations, engineering analysis and design, preparation of plans and specifications, and project supervision and management. He has spent the majority of his

career working with dams across the nation. Mr. Green is also an expert in regards to the post tensioning of concrete gravity dams. Mr. Green provided geotechnical expertise for projects 1 through 5 listed in the Relevant



Projects Section and his past efforts in designing post tensioned rock anchors to stabilize concrete gravity dams will be essential for any overturning issues that may arise with concrete structures.

Structural Expertise in Dams
 Spillway Analysis and Design

Donald Marburger, PE will serve as the Structural Lead. Mr. Marburger's 36 years of

professional experience, 34 years with Baker, has been in design, inspection, analysis, and rehabilitation of concrete and steel structures. He conducted the structural assessment to determine the integrity of the structures and designed the new spillways and stilling basins for projects 1 through 5, and 9 listed in the Relevant



Projects Section. One of these projects was a labyrinth spillway while the other was a more conventional spillway. He has also designed for extreme loadings for structures used on airports and under railroad lines. Mr. Marburger has conducted numerous structural analysis of existing bridges and culverts including bridges and tunnels on airports.

Experience with WVDEP

Baker has been working with WVDEP since 1983 providing a wide array of engineering services to support the Abandoned Mine Land Reclamation program. These projects have included abandoned mine reclamation and acid mine drainage abatement, and also water distribution and water treatment systems, subsidence investigation and stabilization, water feasibility studies, and re-mining studies. Baker's current WVDEP projects, currently under construction, include the Wymer Portals and AMD project, and the Davidson Highwall project.

Wymer Portals and AMD, & Davidson Highwall Projects:

In 2009, Baker prepared design plans, specifications, and construction cost estimates for reclamation of pair of large abandoned mine complexes located in Monongalia County. The sites included numerous exposed mine entries, steep highwalls, acid mine drainage, water impoundments, and barren refuse areas. Baker developed detailed reclamations plans including site grading, surface and mine water conveyance structures, mine seals, access roads, culvert crossings, and bat gates for selected entries. The projects



required surveying services for development of base mapping at a two foot contour interval. Geotechnical investigation consisting of site reconnaissance, research of mining documents, and exploratory drilling was required to determine the underground soil, rock, groundwater, and mine characteristics.



Construction of these two projects commenced in July, 2010. Baker provided assistance to WVDEP during project bidding by providing engineering representation at pre-bid meetings for each project. During these on site meetings Baker's project manager presented the projects to prospective bidders, discussing in detail the project requirements, answering questions, and leading walking tours of the sites. Baker also provided engineering representation at preconstruction meetings, and remains available for construction monitoring services on an 'as needed' basis.

Past Work for WVDEP:

Baker has provided design and bidding phase services for numerous projects for WVDEP. In addition to Abandoned Mine Land Reclamation projects such as those discussed above, Baker has completed many water feasibility studies, the most recent of which was the Miller Mountain Water Feasibility Study in Webster County. The study included investigation of local water sources and mining histories in order to determine if "pre-law" mining activities had contributed significantly to the degradation of local water supplies. This required interviews with area residents and testing of representative water samples obtained from wells, springs, and streams. Extensive research of available literature and mining maps was performed to identify relationships between past mining, local groundwater aquifers, and surface waters. After determining the Miller Mountain area water supplies had been negatively impacted by past mining activities, Baker provided alternative methods and recommendations for providing safe drinking water to area residents. The preferred alternative was extension of a nearby water distribution system to serve residences in the project area. A feasibility level cost estimate for the extension of waterlines and preliminary hydraulic analysis was provided.

Baker has also provided WVDEP with full design of water distribution and treatment facilities. One large project in McDowell County provided complete replacement of an inadequate water system which did not meet regulatory requirements. The McDowell Water Supply project included design of a 300 gpm water filtration plant, two water storage standpipes, one booster pumping station, and 29 miles of water distribution piping to serve 900 residences.

Baker has also prepared stabilization plans required to address subsidence issues associated with past mining activities. These projects are typically in high visibility residential areas and require extensive site investigation and detailed grouting plans to provide a permanent solution to sinkholes and other subsidence features. Remining studies have also been undertaken in order to evaluate the potential uses of coal refuse materials and assess their commercial value.



Project Management Approach

Ensuring Quality. The quality of our projects is evident in the fact that we have built long-term relationships with many of our clients. In fact, over 80% of Baker's workload is repeat business, which is directly attributable to our commitment to delivering quality projects. In addition, our clients

If desired, Baker can come to WVDNR's office and conduct a presentation on our Project Management – The Baker Way

have the peace of mind that comes from knowing that their projects will be completed on time without cost overruns.

To ensure the quality of our work, our senior technical personnel provide guidance and oversight throughout the design of all projects. We make certain that they are available to assist when needed, and ensure that all products meet our high level of quality. In addition to the oversight that is provided throughout the design, all of our work receives a thorough technical and peer review by a senior staff member. In most cases a minimum of two reviews are performed by senior staff prior to the final submission of the design. These reviews by senior staff verify that the design meets all applicable requirements and we are providing a technically sound design. No final product leaves our office until it has been reviewed by senior staff, which assures that it meets the level of quality expected by our clients.

Project Management – "The Baker Way". Baker has a longstanding history of providing timely engineering services within budget on assigned projects. Baker will endeavor to always keep WVDNR informed of the status of the work, to complete all assignments on time, and to submit deliverables on schedule.

Effective management plans ensure tasks are being performed by the right staff, at the right time, with the right tools, and that communication flows efficiently and effectively. To ensure that Baker's project managers closely monitor project progress, resource allocation, budgets and schedule, they are required to employ "Project Management – The Baker Way", a manual that defines the processes for which all Baker projects are managed. The objective is to improve project performance through product delivery excellence. Better organization, tools and methods to monitor budgets, an emphasis on communication both internally and externally with the customer and stakeholders, and a structured approach to delivering quality are a few examples for improving project performance that are included in the manual.

Schedule and Budget Control. Baker's project control system follows a pre-established format. It is an Internet-based Oracle database system that combines financial monitoring with an assessment of progress, client satisfaction and technical performance. The control system requires that program managers regularly update, assess and report on their projects. A baseline of planned costs and schedules is entered into Oracle. Through Oracle, project control is achieved by processing the data to compare expenditures and actual completion with respect to time. Outputs highlight status by trending budget variance, schedule variance, milestone



accomplishments and technical performance over time. By regularly assessing the status of these key indicators, potential problems can be identified at an early stage and their resolution determined before there is a major impact.

Project Management Plan. At Baker, we do not believe that project success just happens, but rather it comes from a well thought out approach to manage and execute the work. All Baker projects have a Project Management Plan (PMP) prior to project initiation. The PMP is a collection of all pertinent information required to successfully manage and execute a project. Features of the PMP include:

- Project purpose
- Scope-of-work and contract
- Documentation of critical assumptions and constraints
- > Project team and stakeholders
- Communications plan
- Project procurement and subcontracting
- Project schedule
- > Project budget and invoicing
- Quality management plan
- Risk management plan
- Closeout plan

Quality Process and Quality Control Procedures. Quality Planning is done up front. Quality assurance and quality control are continuous over the life of the project. Baker utilizes three elements in our quality process:

- Palaning. In the planning stage, we identify clients' program requirements, determine which quality standards apply, and determine what will be done to satisfy these program requirements.
- Quality Assurance. During the course of the project, we make sure that quality control efforts are taking place; we verify that efforts are producing the desired results, and we make adjustments to the processes as necessary.
- Quality Control. We perform inspection directly on the product itself to determine if it meets the requirements developed in the quality planning stage. We also identify ways to eliminate causes of unsatisfactory results such as change orders created by errors and omissions.

Proven Track Record. Our track record for meeting demanding schedules is well-documented. Baker has proven our ability to be cost effective, responsive to aggressive schedules, and able to tackle any challenge through this contract. Baker is committed to developing and adhering to a mutually agreeable schedule for



completing your projects. The combination of our most experienced engineers and respected subconsultants (if required) makes Baker well prepared to meet WVDNR's project needs Baker prides itself in striving to meet all of our clients' project goals and schedules. One of Baker's core values is customer commitment, and we are committed to understanding the importance of, and meeting, your project schedules. Baker also has a track record of successfully performing projects of all sizes. We work on projects for our municipal clients that are less than \$5,000, as well as complex program projects with numerous concurrent task orders that combine for a total contract value of nearly \$500 million. Regardless of the project size, Baker has the ability to deliver for our clients.

Why Baker

In preparing our response to the Request for Qualifications, we developed a team that brings the best expertise for each of the nine scope-of-work requirements as illustrated below. As shown in the Relevant Project Experience Matrix of this proposal, our example projects include the requested scope-of-work requirements and we are going to utilize the staff that is currently completing our relevant projects as shown in the Key Personnel Participation In Example Projects matrix of this proposal. This should ensure WVDNR that Baker is going to provide the best for this project. Following is a listing to help illustrate how we will fulfill the requirements to bring these dams into compliance with current dam safety regulations through just the Relevant Projects alone:

Engineering Requirements:

- > Experience in hydrologic and hydraulic analyses to develop watershed data for inclusion into analysis for Emergency Action Plan.
 - Chad Davis completed this type of hydrologic and hydraulic analyses for projects 1 through 8.
- > Experience in hydrologic and hydraulic analyses to determine adequacy of spillway systems.
 - Chad Davis completed this type of hydrologic and hydraulic analyses for projects 1 through 8.
- > Experience in performing geotechnical analyses to determine embankment stability.
 - Don Green completed this type of geotechnical analyses for projects 1 through 5.
- Experience in performing structural analyses to determine integrity of concrete structures.
 - Don Marburger completed this type of structural analyses for projects 1 through 8.
- Experience with regulatory agencies with authority over dam and water resource related projects.
 - The team has experience with regulatory agencies as shown in all the example projects.
- > Experience in design of dam-related projects.
 - The team has experience in the design of dam-related projects as shown in projects 1 through 8.



- > Experience with construction administration of dam-related projects.
 - The team has experience with construction administration as shown in projects 1 through 8.
- > Experience working with local agencies.
 - The team has experience in working with local agencies as shown in all the example projects.

The bottom line is that we have the expertise to ensure these projects are a success and we look forward to working with WVDNR.



KEY PERSONNEL SECTION

ORGANIZATION CHART

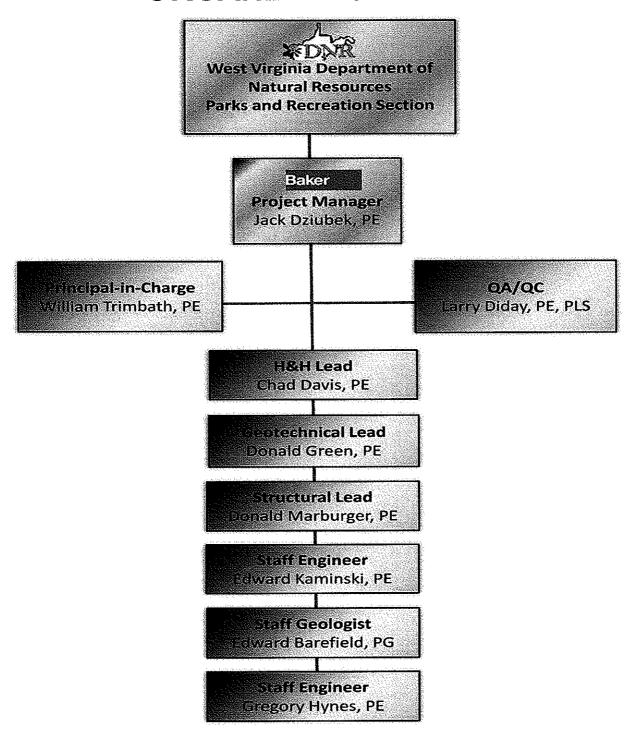
RESUMES

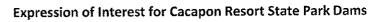
KEY PERSONNEL PARTICIPATION IN RELEVANT PROJECTS



KEY PERSONNEL SECTION

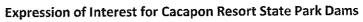
ORGANIZATION CHART





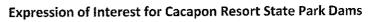


		RESUMES OF KI	EY PERSONNEL						
_				YEA	ARS EXPERIENCE				
	NAME Jack Dziubek, PE	ROLE IN THIS Project I		TOTAL	WITH CURRENT FIRM				
				44	27				
	M NAME AND LOCATION (City and State) chael Baker Jr., Inc., Beaver, Pennsylvania	3							
	JCATION (DEGREE AND SPECIALIZATION)		CURRENT PROFESSI	ONAL REGISTRATION (S	STATE AND DISCIPLINE)				
MS	CE, Civil Engineering, Purdue University		Professional Engir	neer: WV, PA, OH					
GEN	NERAL QUALIFICATIONS				of his career he has inspected				
Dzi	ubek has been performing and managing geote well as supervised the inspection of, more than	chnical engineering and d	iesign projects for 44 y e has performed reha	/ears. Over the course bilitation design for mo	re than 30 dams. Many of these				
don	ne were in nork settings similar to Cacapon F	Resort State Park, includir	na dams in Berkelev	Springs, West Virginia	and Gore, Pennsylvania. Mr.				
Dzi	ubek's extensive experience also includes of dings, and foundations. Mr. Dziubek has providence also includes of the dings and foundations.	onducting geotechnical i	investigations for leve ertise for projects 1 th	ees, hydraulic structu rough 9 listed in the F	res, mines, marine structures, Relevant Projects Section and is				
rea	dy to lead the Baker Team. His extensive exper	rience in dam inspection a	<u>nd rehabilitation desig</u>	n will ensure that WVI	DNR's project is a success.				
		RELEVANT	PROJECTS		RELEVANT PROJECT NUMBER				
	TITLE AND LOCATION (City and State) Dutch Fork Lake Dam - Dam Renovati	one	YEAR COI DESIGN	CONSTRUCTION					
	Donegal Township, Pennsylvania	Di 13	2012 (est.)	2012 (est.)	1				
	(4) BRIEF DESCRIPTION (Brief scope, size, cost, e	tc.) AND SPECIFIC ROLE		☐ Check if proj	ect performed with current firm				
a.	Pennsylvania Department of General Service report, plans and specifications for earth dan	es. Sr. Geotechnical Eng	jineer. Responsible t	or Sr. Technical Guid	nance and QA of geotechnical on of Dutch Fork Lake Dam to				
	determine what measures were needed to br	ring the dam into complia	nce with PADEP regu	lations regarding spills	way capacity and resistance to				
	overtopping. A new spillway and roller compa	cted concrete overtopping	protection were design	gned. Construction dra	wings and specifications of the				
	selected alternative were prepared. Baker w	selected alternative were prepared. Baker will perform oversight to ensure that the construction is conducted in accordance with the contract							
႕	documents. Cost: \$482,700 (Fee), \$4,765,00 TITLE AND LOCATION (City and State)	U (Est. Construction)	YEAR CO	MPLETED	RELEVANT PROJECT NUMBER				
	Donegal Lake Dam - Dam Renovation	s	DESIGN	CONSTRUCTION	2				
	Donegal, Pennsylvania								
	(4) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Main Check if project performed with current firm Pennsylvania Department of General Services. Sr. Geotechnical Engineer. Responsible for Sr. Technical Guidance and QA of geotechnical								
b.	report, plans and specifications for earth dam and spillway reconstruction. Baker was responsible for the evaluation of Donegal Lake Dam to								
	determine what measures were needed to be	ring the dam into complia	nce with PADEP regu	ilations regarding spilli	way capacity and resistance to				
	overtopping. New stilling basin slabs and roller compacted concrete overtopping protection were designed. Construction drawings and specifications of the selected alternative were prepared. Baker will perform oversight to ensure that the construction is conducted in accordance								
	with the contract documents. Cost: \$428,724	: (Fee), \$3,377,000 (Est. (Construction)						
	TITLE AND LOCATION (City and State)		YEAR CO DESIGN	MPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER				
	Kyle Lake Dam - Dam Renovations		2012 (est.)	2013 (est.)	3				
	Jefferson County, Pennsylvania BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE	<u> </u>	☑ Check if pro	ject performed with current firm				
_	Pennsylvania Department of General Service	Pennsylvania Department of General Services. Sr. Geotechnical Engineer. Responsible for Sr. Technical Guidance and QA of geotechnical							
C.	report, plans and specifications for earth d determine what measures were needed to b	am and spillway reconst	ruction. Baker was re	esponsible for the evaluations regarding spills	aluation of Kyle Lake Dam to				
	overtopping. New gate house, outlet works,	and articulated concrete	block overtopping p	rotection were design	ed. Construction drawings and				
	specifications of the selected alternative we	ere prepared. Baker also	performed oversight	t to ensure that the o	construction was conducted in				
_	accordance with the contract documents. Co	st: \$451,188 (Fee); \$3,42	0,000 (Est.Construction	on) MPLETED	RELEVANT PROJECT NUMBER				
	(TITLE AND LOCATION (City and State) Somerset Lake Dam Renovations		DESIGN	CONSTRUCTION					
	Somerset Township, Pennsylvania		2012 (est.)	2013 (est.)	4				
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE	-i Deenensible		ject performed with current firm				
d.	Pennsylvania Department of General Service report, plans and specifications for earth da	es. Sr. Geotechnical En	igineer. Responsible ction Baker was resr	nonsible for the evalua	ition of Somerset Lake Dam to				
	bring the dam into compliance with PADEP	regulations regarding sp	illway capacity and r	esistance to overtoppi	ing. A labyrinth spillway with a				
	parapet wall was designed. Construction drawings and specifications of the selected alternative were prepared. Baker will perform oversight to ensure that construction is conducted in accordance with contract documents. Cost: \$402,651 (Fee), \$3,820,000 (Est. Construction)								
_	ensure that construction is conducted in acco	rdance with contract docu	ments. Cost: \$402,65	<i>1 (Fee), \$3,820,000 (E</i> MPLETED	RELEVANT PROJECT NUMBER				
	TITLE AND LOCATION (City and State) Canonsburg Lake Dam - Dam Renova	itions	DESIGN	CONSTRUCTION	5				
	Canonsburg Lake, Pennsylvania		2012 (est.)	2012 (est.)					
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) Pennsylvania Department of General Service) AND SPECIFIC ROLE	ngineer Resnonsible		ject performed with current firm				
d.	report, plans and specifications for earth dan	n and spillway reconstruct	ion Baker was respo	onsible for the evaluati	on of Canonsburg Lake Dam to				
	determine what measures were needed to be	oring the dam into complia	ance with PADEP reg	ulations regarding the	stability of the concrete gravity				
	dam. A nost tensioning anchoring system v	was designed. Construction	on drawings and spec	cifications of the selec	cted alternative were prepared.				
	Baker will perform oversight to ensure that	the construction is condu	ucted in accordance t	with the contract doct	imenia. Obai. 900a,000 (i 66),				
	\$3,500,000 (Est. Construction)								





		RESUMES OF K	EY PERSONNEL					
	NAME	ROLE IN THIS	CONTRACT		ARS EXPERIENCE			
	William D. Trimbath, PE	Principal-	in-Charge	TOTAL 36	WITH CURRENT FIRM 23			
	M NAME AND LOCATION (City and State) hael Baker Jr., Inc., Beaver, Pennsylvania							
DU	ICATION (DEGREE AND SPECIALIZATION)		CURRENT PROFESS	SIONAL REGISTRATION (STATE AND DISCIPLINE)			
VI.S	Civil Engineering, University of Pittsburg	gh	Professional Eng	jineer: PA				
<u> </u>	., Civil Engineering, West Virginia Univers	ity						
VIr	IERAL QUALIFICATIONS Trimbath oversees the Civil Engineering Grou	p at Baker which is com	prises the civil, wate	er resources, geotechn	ical, mining, municipal, and			
مام	communications services for Baker, Mr. Trimba	th has been with Baker fo	or over 23 years and	has served as the Prin	icipal-in-Charge for the past			
vor	k with WVDNR as well as the projects 1 the tionships and has established a level of trust	rough 9 listed in the Re that Baker will deliver its	elevant Projects Sec hest and brightest	rion. Inrough these processources for WVDNF	R to ensure the project is a			
	cess.	that baker will deliver to	best and brighteet	100001000 101 71 12711	, 1.0 O.1.201.0 I.1.0 p. 1.7.0 I.1.0 II.1.0 II.1			
0.00		RELEVANT	PROJECTS					
	TITLE AND LOCATION (City and State)	and OMI	YEAR C	OMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER			
1	United States Steel Corporation – EAP	and Own	2010	NA				
ı	Development for Existing Dam Lorain, Ohio							
	PRICE DESCRIPTION (Brief scope size cost etc.)	AND SPECIFIC ROLE		☑ Check if pro	ject performed with current firm			
	United States Steel Corporation, Principal-in-	-Charge. Responsible fo	r overall project perl	formance and client sa	tisfaction. Baker developed an			
а.	Operation, Maintenance, and Inspection (OM	l) and an Emergency Act	tion Plan (EAP) for a	an existing impoundme	ent located in Lorain, Onio. The			
1	OMI Manual was prepared in accordance wit give the client instruction on the safe operatio	n ODNR's "Guidelines to	r an Operation, iviali	ntenance and inspection ntor's to enable them to	recognize situations that could			
	impact the embankment's structural integrity,	and describe both the re	outine and non-routi	ne maintenance activit	ies required to ensure the long			
	term stability of the structure. The EAP was d	leveloped in accordance	with ODNR's "Emer	gency Action Plan (EAI	P) Guidelines" and followed the			
	format proposed by the Interagency Committe	ee on Dam Safety (ICOD)	It provided the c	lient with easy to follow	guidance for the selection and			
	implementation of appropriate level of action,	monitoring, and notification	n in a potential dam	failure situation. Cost: 3	\$40,800 (Fee)			
	TITLE AND LOCATION (City and State)		YEAR C DESIGN	OMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER			
1	Dutch Fork Lake Dam - Dam Renovation	ons	2012 (est.)	2012 (est.)	1			
	Donegal Township, Pennsylvania	AND ODECIEIC DOLE	2012 (0011)		ject performed with current firm			
	Brief Description (Brief scope, size, cost, etc.)	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Pennsylvania Department of General Services. Principal-in-Charge. Responsible for overall project performance and client satisfaction. Baker						
b.	was responsible for the evaluation of Dutch Fork Lake Dam to determine what measures were needed to bring the dam into compliance with							
	PADEP regulations regarding spillway capacity and resistance to overtopping. A new spillway and roller compacted concrete overtopping							
	protection were designed. Construction drawings and specifications of the selected alternative were prepared. Baker will perform oversight to							
	ensure that the construction is conducted in accordance with the contract documents. Cost: \$482,700 (Fee), \$4,765,000 (Est. Construction)							
	TITLE AND LOCATION (City and State)		YEAR C	OMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER			
	Kyle Lake Dam - Dam Renovations		2012 (est.)	2013 (est.)	3			
	Jefferson County, Pennsylvania	AND ADECUEIO DOLE	2012 (001.)	`	l oject performed with current firm			
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) Pennsylvania Department of General Service	AND SPECIFIC ROLE	Responsible for ove	rall project performanc	e and client satisfaction. Baker			
C.	was responsible for the evaluation of Kyle La	ake Dam to determine wh	nat measures were i	needed to bring the da	m into compliance with PADEP			
	regulations regarding spillway capacity and re	esistance to overtopping.	New gate house, or	utlet works, and articula	ated concrete block overtopping			
	protection were designed. Construction draw	ings and specifications of	of the selected alter	native were prepared.	Baker will perform oversight to			
	ensure that the construction is conducted in a	ccordance with the contra	ct documents. Cost	: \$451,188 (Fee), \$3,42	20,000 (Est. Construction)			
	TITLE AND LOCATION (City and State)		YEAR O	COMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER			
	Canonsburg Lake Dam - Dam Renova	tions	2012 (est.)	2012 (est.)	5			
	Canonsburg Lake, Pennsylvania		2012 (001.)	1	ject performed with current firm			
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) Pennsylvania Department of General Service	AND SPECIFIC ROLE	Responsible for ove	rall project performanc	e and client satisfaction. Baker			
d.	was responsible for the evaluation of Canon:	shura Lake Dam to dete	mine what measure	s were needed to brin	g the dam into compliance with			
	PADEP regulations regarding the stability of	the concrete gravity dam.	A post tensioning a	nchoring system was d	lesigned. Construction drawings			
	and specifications of the selected alternative	re were prepared. Baker	r will perform overs	sight to ensure that th	e construction is conducted in			
	accordance with the contract documents. Co.	st: \$369,300 (Fee), \$3,50	0,000 (Est. Construc	tion)	DE CVANTARO ISCTANIMARED			
	(1) TITLE AND LOCATION (City and State)		DESIGN	COMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER			
	Monte-Mere Lake Dam Rehabilitation		2010	2011 (est.)	9			
	Geauga County, Ohio (4) BRIEF DESCRIPTION (Brief scope, size, cost, e	to LAND SPECIFIC DOLE			oject performed with current firm			
	(4) BRIEF DESCRIPTION (Brief scope, size, cost, e Monte-Mere Lake Association. Principal-in-C	tharne Responsible for	overall project perfe					
e.	inspection of the dam and developed an appr	cach to renair the existing	concrete annon. T	his approach would util	ize pressure grouting conducted			
	on a grid pattern to fill the voids under the co	ncrete apron. Consulted	with ODNR to discu	iss the concern regardi	ng an underdrain believed to be			
	directly connected to the reservoir and the re	quired documentation. V	orking with the Ass	ociation to conduct hyd	raulic modeling of a dam break.			
	Results of dam break modeling will be used	d to determine if the cla	ssification of the da	m can be reduced, al	lowing them to avoid additional			
	rehabilitation. Cost: \$45,000 (Fee), \$300,000	(Est. Construction)						



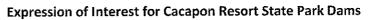


		RESUMES OF K	EY PERSONNEL					
MAP	E	ROLE IN THIS CONTRACT	Γ	YE.	ARS EXPERIENCE			
	Larry Diday, PE, PLS	Quality Assur	ance / Control	TOTAL 43	WITH CURRENT FIRM 43			
	n NAME AND LOCATION (City and State) hael Baker Jr., Inc., Beaver, Pennsylvan	ia		1 40	40			
	CATION (DEGREE AND SPECIALIZATION) ., Mechanical and Structural Design		CURRENT PROFESS Professional Eng	SIONAL REGISTRATION (pineer, PA; Profession	STATE AND DISCIPLINE) nal Land Surveyor, PA			
Mr. expe cerr Con desi	ER PROFESSIONAL QUALIFICATIONS (Publication Diday has worked for Baker for 43 years a sertise in water resources, civil and environmentiting, for various governmental, industrial arcticles of Engineers, Federal Emergency Managers, conducted dam inspections and designed agement plans and permit applications for local process.	nd is Assistant Vice Presi ental engineering investigand private sector clients. Hement Agency, and various d high-hazard dams, condu	ident and the Engine ations, design, project e has completed pro- counties and municulated flood insurance	ct management, desigr pjects for public clients : palities. He has perfon	n review, technical analysis, and such as the WVDNR, U.S. Army med and managed infrastructure			
			PROJECTS					
	TITLE AND LOCATION (City and State)	B 1011	YEAR C DESIGN	OMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER			
	United States Steel Corporation – EA Development for Existing Dam Lorain, Ohio	P and OMI	2010	NA	NA			
a.	United States Steel Corporation. QA/QC. F existing impoundment located in Lorain, C Maintenance and Inspection Manual". It was inspector's to enable them to recognize situaroutine maintenance activities required to e "Emergency Action Plan (EAP) Guidelines" at the client with easy to follow guidance for the dam failure situation. Cost: \$40,800 (Fee)	Ohio. The OMI Manual was prepared to give the clied ations that could impact the insure the long term stabile and followed the format pro	as prepared in acco ent instruction on the e embankment's stru ity of the structure. poosed by the Interac	ordance with ODNR's e safe operation of the ctural integrity, and des The EAP was develope gency Committee on Da	"Guidelines for an Operation, dam, provide direction for their cribe both the routine and noned in accordance with ODNR's am Safety (ICODS). It provided			
┪	TITLE AND LOCATION (City and State)			OMPLETED	RELEVANT PROJECT NUMBER			
	Donegal Lake Dam - Dam Renovation Donegal, Pennsylvania	1 s	DESIGN 2012 (est.)	construction 2013 (est.)	2 Sject performed with current firm			
b.	BRIEF DESCRIPTION (Brief scope, size, cost, etc. Pennsylvania Department of General Service evaluation of Donegal Lake Dam to determine spillway capacity and resistance to overtop Construction drawings and specifications of conducted in accordance with the contract of	rices. QA/QC. Responsion what measures were not ping. New stilling basin slother selected alternative we	eeded to bring the da abs and roller compare are prepared. Baker v 4 (Fee); \$3,377,000 (am into compliance wit acted concrete overtop will perform oversight to Est. Construction)	h PADEP regulations regarding ping protection were designed. ensure that the construction is			
	TITLE AND LOCATION (City and State)		YEAR C DESIGN	COMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER			
	Kyle Lake Dam - Dam Renovations Jefferson County, Pennsylvania		2012 (est.)	2013 (est.)	3			
c.	Pennsylvania Department of General Serv	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Pennsylvania Department of General Services. QA/QC. Responsible for QA/QC review of all deliverables. Baker was responsible for evaluation of Kyle Lake Dam to determine what measures were needed to bring the dam into compliance with PADEP regulations regard						
	evaluation of Kyle Lake Dam to determine spillway capacity and resistance to overto designed. Construction drawings and spec construction is conducted in accordance with	pping. New gate house, a ifications of the selected a	outlet works, and a alternative were prep	rticulated concrete bloo pared. Baker will perfor	ck overtopping protection were m oversight to ensure that the			
=	TITLE AND LOCATION (City and State)	it the contract documents.		OMPLETED	RELEVANT PROJECT NUMBER			
	Somerset Lake Dam Renovations Somerset Township, Pennsylvania		DESIGN 2012 (est.)	CONSTRUCTION (2013 (est.)	4			
d.	BRIEF DESCRIPTION (Brief scope, size, cost, etc Pennsylvania Department of General Service evaluation of Somerset Lake Dam to determ spillway capacity and resistance to overthe specifications of the selected alternative we	rices. QA/QC. Responsi nine what measures were r opping. A new labyrinth are prepared. Baker will pe	ble for QA/QC revie needed to bring the c spillway with a par- rform oversight to en	☐ Check if pro ew of all deliverables. dam into compliance will apet wall was designed	th PADEP regulations regarding ed. Construction drawings and			
	contract documents. Cost: \$402,651 (Fee);	\$3,820,000 (Est. Construc	tion)	COMPLETED	RELEVANT PROJECT NUMBER			
	TITLE AND LOCATION (City and State) Monte-Mere Lake Dam Rehabilitation	1	DESIGN	CONSTRUCTION	9			
	Geauga County, Ohio BRIEF DESCRIPTION (Brief scope, size, cost, etc Monte-Mere Lake Association. QA/QC. F	Responsible for QA/QC re-	2010 view of all deliverab	les. Baker conducted	oject performed with current firm an inspection of the dam and			
e.	developed an approach to repair the existin voids under the concrete apron. Consulted reservoir and the required documentation. modeling will be used to determine if the classification (Fee), \$300,000 (Est. Construction)	l with ODNR to discuss the Working with the Associa	e concern regarding ation to conduct hydr	an underdrain believed raulic modeling of a da	I to be directly connected to the m break. Results of dam breat			



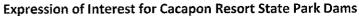


		RESUMES OF KI	EY PERSONNEL		
	NAME	ROLE IN THIS	CONTRACT	YEA	ARS EXPERIENCE
	Chad Davis, PE	Hydrology and I		TOTAL 9	WITH CURRENT FIRM 7
FIRM Viic	NAME AND LOCATION (City and State) hael Baker Jr., Inc., Beaver, Pennsylvania				
DU M.S	ICATION (DEGREE AND SPECIALIZATION) S., Civil Engineering, The Pennsylvania Sta	ate University		SSIONAL REGISTRATION NEER: PA, CO, TX	N (STATE AND DISCIPLINE)
GEN VIr. over stab	IERAL QUALIFICATIONS Davis is a Water Resources Engineer with rtopping protection design, dam rehabilita bilization/restoration, stormwater management, rently being reviewed by ODNR. He is also was NR Regulations.	an expertise in hydrologation, Emergency Actionand utility relocations. Mr	n Plans, construct . Davis has recently a	ion oversight, storm assisted with the devel	water drainage, channel opment of an EAP which is
0/04		RELEVANT	Sold Profit Color of Color of Color and Street Land Color Color Sold Color Color Color Color Color Color Color		
٦	TITLE AND LOCATION (City and State)	and OMI	YEAR CO DESIGN	MPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER
	United States Steel Corporation – EAP Development for Existing Dam	asiu Owii	2010	NA	NA
1	Lorain, Ohio (4) BRIEF DESCRIPTION (Brief scope, size, cost, et				ject performed with current firm
a.	United States Steel Corporation. Water Resc Action Plan (EAP) for an existing impoundme for an Operation, Maintenance and Inspection direction for their inspector's to enable them to routine and non-routine maintenance activities with ODNR's "Emergency Action Plan (EAP (ICODS). It provided the client with easy to notification in a potential dam failure situation.	ent located in Lorain, Ohion Manual". It was prepart or recognize situations that is required to ensure the left Guidelines" and follow follow guidance for the se	 The OMI Manual wed to give the client t could impact the emong term stability of the format proposed 	es prepared in accord instruction on the safe bankment's structural the structure. The EAP sed by the Interagence	ance with ODNR's "Guidelines operation of the dam, provide integrity, and describe both the was developed in accordance by Committee on Dam Safety
┉┤	TITLE AND LOCATION (City and State)	Cost. \$40,000 (1 ee)		MPLETED	RELEVANT PROJECT NUMBER
	Dutch Fork Lake Dam - Dam Renovation	ons	DESIGN 2012 (est.)	construction 2012 (est.)	1
	Donegal Township, Pennsylvania BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND ODEOLGIO DOLE	2012 (631.)		ject performed with current firm
	Lake Dam to determine what measures were resistance to overtopping. A new spillway a specifications of the selected alternative were with the contract documents. Cost: \$482,700 TITLE AND LOCATION (City and State)	and roller compacted core prepared. Baker will per (Fee), \$4,765,000 (Est. C	crete overtopping pr form oversight to ens Construction)	otection were designe	ed. Construction drawings and
	Donegal Lake Dam - Dam Renovations Donegal, Pennsylvania		2012 (est.)	2013 (est.)	2
c.	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) Pennsylvania Department of General Service plans and specifications for embankment over Lake Dam to determine what measures were resistance to overtopping. New stilling basin and specifications of the selected alternativa accordance with the contract documents. Cost	es. Water Resources En- rtopping protection and sp needed to bring the dan slabs and roller compact we were prepared. Bakel	oillway reconstruction in into compliance with ed concrete overtopp will perform oversion, 7,000 (Est. Construct	for preparation of Hyd . Baker was responsible h PADEP regulations in hing protection were de ght to ensure that the tion)	le for the evaluation of Donegal regarding spillway capacity and esigned. Construction drawings e construction is conducted in
	TITLE AND LOCATION (City and State)		YEAR CO	OMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER
	Kyle Lake Dam - Dam Renovations Jefferson County, Pennsylvania		2012 (est.)	2013 (est.)	3
d.	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) Pennsylvania Department of General Service plans and specifications for embankment ov. Lake Dam to determine what measures were resistance to overtopping. New gate house, drawings and specifications of the selected al accordance with the contract documents. Co.	es. Water Resources En ertopping protection and e needed to bring the dan outlet works, and articu lternative were prepared.	gineer. Responsible spillway reconstruction into compliance with lated concrete block Baker will perform ov 0,000 (Est. Construct	☑ Check if profor preparation of Hydon. Baker was responden PADEP regulations overtopping protection (rersight to ensure that to)	sible for the evaluation of Kyle regarding spillway capacity and n were designed. Construction the construction is conducted in
	TITLE AND LOCATION (City and State)		YEAR CO DESIGN	OMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER
	Monte-Mere Lake Dam Rehabilitation Geauga County, Ohio			2011 (est.)	9
	i Gearna Colluiv Chio		2010	2011(000)	





		RESUMES OF KE	Y PERSONNEL					
	NAME	ROLE IN THIS	CONTRACT	YE	ARS EXPERIENCE			
	Donald Green, PE	Geotechn		TOTAL	WITH CURRENT FIRM			
-1		Jevieusiii		32	5			
	d NAME AND LOCATION (City and State) hael Baker Jr., Inc., Moon Township, Peni	nsvlvania						
Dί	ICATION (DEGREE AND SPECIALIZATION)		CURRENT PROFESS	SIONAL REGISTRATION (STATE AND DISCIPLINE)			
VI.S	Civil Engineering, University of Pittsburg	gh	Professional Eng	ineer: WV, PA				
OTF	IER PROFESSIONAL QUALIFICATIONS (Publication Green is a Geotechnical Engineer with 32	s, Organizations, Training, Aw Vears, of geotechnical	rards, etc.) consulting, experien	ce in dam inspection	and design geotechnical and			
env	ironmental engineering, planning, laboratory at	nd field investigations, end	gineering analysis a	nd design, preparation	of plans and specifications, and			
aroi	ect supervision and management. He has spe	ent the majority of his car	reer working with da	ams across the nation.	. Mr. Green is also an expert ir			
ega	ards to the post tensioning of concrete gravity erience Section and his past efforts in designir	/ dams. Mr. Green provid	ied Geotechnical ex	(pertise for projects 1 to perete gravity dams will	inrough 5 listed in the Relevan The essential for any overturning			
	enence Section and his past enous in designing that may arise with concrete structures.	ig post tensioned rock and	Jiors to stabilize cor	larete gravity dame viii	be decorded for any eventuring			
		RELEVANT PROJECTS (Up						
	TITLE AND LOCATION (City and State)		YEAR CO	OMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER			
	Dutch Fork Lake Dam - Dam Renovation	ons	2012 (est.)	2012 (est.)	1			
	Donegal Township, Pennsylvania (4) BRIEF DESCRIPTION (Brief scope, size, cost, et	c.) AND SPECIFIC ROLE	······································	☐ Check if pro	ject performed with current firm			
1	Pennsylvania Department of General Services	Geotechnical Engineer.	Responsible for cor	npleting a geotechnical	investigation to provide design			
a.	recommendations to improve spillway capac	ity and provide overtoppi	ng protection for ar	n existing earth dam.	Baker was responsible for the			
	evaluation of Dutch Fork Lake Dam to dete	ermine what measures w	ere needed to bring	g the dam into compli	iance with PADEP regulations			
	regarding spillway capacity and resistance to Construction drawings and specifications of the	overtopping. A new spilly	vay and roller compl to propared. Raker v	acted concrete overtop vill perform oversight to	ensure that the construction is			
	construction drawings and specifications of the conducted in accordance with the contract documents	cuments. Cost: \$482.700 (Fee): \$4.765.000 (e	st.)	Charle that the conclusion to			
-	TITLE AND LOCATION (City and State)		YEAR CO	OMPLETED	RELEVANT PROJECT NUMBER			
	Donegal Lake Dam - Dam Renovations	;	DESIGN 2012 (pet)	construction 2013 (est.)	2			
	Donegal, Pennsylvania							
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE Rectechnical Engineer	Responsible for cor					
b.	Pennsylvania Department of General Services. Geotechnical Engineer. Responsible for completing a geotechnical investigation to provide design recommendations to improve spillway capacity and provide overtopping protection for an existing earth dam. Baker was responsible for the							
	evaluation of Donegal Lake Dam to determine	e what measures were ne	eded to bring the da	am into compliance with	n PADEP regulations regarding			
	spillway capacity and resistance to overtoppi	ng. New stilling basin sla	bs and roller compa	acted concrete overtop	ping protection were designed.			
	Construction drawings and specifications of the selected alternative were prepared. Baker will perform oversight to ensure that the construction conducted in accordance with the contract documents. Cost: \$428,724 (Fee): \$3,377,000 (Construction)							
-	TITLE AND LOCATION (City and State)	Suments. 0031. \$420,124		OMPLETED	RELEVANT PROJECT NUMBER			
	Kyle Lake Dam - Dam Renovations		DESIGN	CONSTRUCTION	3			
	Jefferson County, Pennsylvania		2012 (est.)	2013 (est.)				
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Pennsylvania Department of General Services. Geotechnical Engineer. Responsible for completing a geotechnical investigation to provide design						
c.	recommendations to improve spillway capac	s. Geolechnical Engineer. ity and provide overtoppi	na protection for ar	n existina earth dam.	Baker was responsible for the			
	evaluation of Kyle Lake Dam to determine v	vhat measures were need	ded to bring the dar	m into compliance with	PADEP regulations regarding			
	spillway capacity and resistance to overtop	ping. New gate house, o	utiet works, and ar	ticulated concrete bloc	k overtopping protection were			
	designed. Construction drawings and specifi	cations of the selected al	ternative were prep	ared. Baker will perfor	m oversight to ensure that the			
_	construction is conducted in accordance with	the contract documents. C		; \$3,420,000 (Construc OMPLETED	RELEVANT PROJECT NUMBER			
	TITLE AND LOCATION (City and State) Somerset Lake Dam Renovations		DESIGN	CONSTRUCTION				
	Somerset Township, Pennsylvania		2012 (est.)	2013 (est.)	4			
	(4) BRIEF DESCRIPTION (Brief scope, size, cost, e	tc.) AND SPECIFIC ROLE			pject performed with current firm			
d.	Pennsylvania Department of General Service	s. Geotechnical Engineer	. Responsible for col	mpleting a geotechnica	I investigation to provide design Baker was responsible for the			
	recommendations to improve spillway capac evaluation of Somerset Lake Dam to determine	ny and provide overtopp ne what measures were n	eeded to bring the d	am into compliance wit	h PADEP regulations regarding			
	spillway capacity and resistance to overtor	pping. A new labyrinth s	pillway with a para	apet wall was designe	ed. Construction drawings and			
	specifications of the selected alternative were	e prepared. Baker will per	form oversight to en	sure that the construct	ion is conducted in accordance			
	with the contract documents. Cost: \$402,651	(Fee); \$3,820,000 (Constr		AND ETER	DELEVANT DOOLEOT NUMBER			
	TITLE AND LOCATION (City and State)	tions	YEAR C DESIGN	OMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER			
	Canonsburg Lake Dam - Dam Renova Canonsburg Lake, Pennsylvania	แบบเอ	2012 (est.)	2012 (est.)	5			
	(4) BRIFF DESCRIPTION (Brief scope, size, cost, e	tc.) AND SPECIFIC ROLE		☐ Check if pro	ject performed with current firm			
	Pennsylvania Department of General Service	es. Geotechnical Engine	er. Responsible pre	paring the design of a	system to anchor the concrete			
e.	dam to bedrock in order to provide resista geotechnical investigation and structural ana	ance to sliding. Assisted	In the developmen	nt of complex hydrolog C and PADEP to deta	gic and nydraulic calculations, ermine the best approach to be			
	advanced to final design. Baker was respons	sible for the evaluation of	Canonsburg Lake D	am to determine what i	measures were needed to bring			
	the dam into compliance with PADEP regula	ations regarding the stabil	ity of the concrete	gravity dam. A post ter	nsioning anchoring system was			
	designed. Construction drawings and specific	cations of the selected a	Iternative were prep	oared. Baker will perfor	rm oversignt to ensure that the			

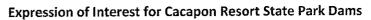




		RESUMES OF K	EY PERSONNEL						
	NAME	ROLE IN THIS	S CONTRACT	YE	ARS EXPERIENCE				
	Donald Marburger, PE		ral Lead	TOTAL 36	WITH CURRENT FIRM 34				
	M NAME AND LOCATION (City and State) chael Baker Jr., Inc., Moon Township, Pen	nsylvania			<u> </u>				
D(UCATION (DEGREE AND SPECIALIZATION) S., Civil Engineering, Carnegie Mellon Univ	ersity	CURRENT PROFESSI Professional Engi		(STATE AND DISCIPLINE)				
	NED AL QUALIFICATIONS								
VIr. ster or	NERAL QUALIFICATIONS Marburger's 36 years of professional experient el structures. He conducted the structural asset projects 1 through 5, and 9 listed in the Release en experient estimated for el merous structural analysis of existing bridges an experient en experience.	ssment to determine the i evant Projects Section. C xtreme loadings for struct	integrity of the structur One of these projects ures used on airports	res and designed the was a labyrinth spilly and under railroad line	new spillways and stilling basins way while the other was a more				
		RELEVANT	PROJECTS						
	TITLE AND LOCATION (City and State)		YEAR CO DESIGN	MPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER				
	Dutch Fork Lake Dam - Dam Renovati Donegal Township, Pennsylvania	ons	2012 (est.)	2012 (est.)	1				
	(4) BRIEF DESCRIPTION (Brief scope, size, cost, e	tc.) AND SPECIFIC ROLE	I		ject performed with current firm				
	Pennsylvania Department of General Service	s. Senior Structural Engir	neer. Responsible for	the structural investiga	ation, assessment, analysis and				
a.	design for spillway reconstruction. Baker was bring the dam into compliance with PADEP compacted concrete overtopping protection v Baker will perform oversight to ensure that the state of the protection of the state of the sta	regulations regarding sp vere designed. Construct	oillway capacity and r ion drawings and spe	esistance to overtopp cifications of the sele	oing. A new spillway and roller cted alternative were prepared.				
-	\$4,765,000 (Est.Construction) TITLE AND LOCATION (City and State)	110	YEAR CO	MPLETED	RELEVANT PROJECT NUMBER				
	Donegal Lake Dam - Dam Renovations	5	DESIGN	CONSTRUCTION					
	Donegal, Pennsylvania	-	2012 (est.)	2013 (est.)	2				
b.	Pennsylvania Department of General Services. Senior Structural Engineer. Responsible for the structural investigation, assessment, analysis and design for spillway reconstruction. Baker was responsible for the evaluation of Donegal Lake Dam to determine what measures were needed to bring the dam into compliance with PADEP regulations regarding spillway capacity and resistance to overtopping. New stilling basin slabs and roller compacted concrete overtopping protection were designed. Construction drawings and specifications of the selected alternative were prepared. Baker will perform oversight to ensure that the construction is conducted in accordance with the contract documents. Cost: \$428,724 (Fee); \$3,377,000 (Est. Construction)								
	(1) TITLE AND LOCATION (City and State)	· ***	YEAR CO	MPLETED	RELEVANT PROJECT NUMBER				
	Kyle Lake Dam - Dam Renovations Jefferson County, Pennsylvania		DESIGN 2012 (est.)	construction 2013 (est.)	3				
c.	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Pennsylvania Department of General Services. Senior Structural Engineer. Responsible for the structural investigation, assessment, analysis and design for spillway and gate house reconstruction. Baker was responsible for the evaluation of Kyle Lake Dam to determine what measures were needed to bring the dam into compliance with PADEP regulations regarding spillway capacity and resistance to overtopping. New gate house, outlet works, and articulated concrete block overtopping protection were designed. Construction drawings and specifications of the selected alternative were prepared. Baker will perform oversight to ensure that the construction is conducted in accordance with the contract documents. Cost: \$451,188 (Fee); \$3,420,000 (Est. Construction)								
	TITLE AND LOCATION (City and State)		YEAR CO	MPLETED	RELEVANT PROJECT NUMBER				
	Somerset Lake Dam Renovations Somerset Township, Pennsylvania		DESIGN 2012 (est.)	CONSTRUCTION 2013 (est.)	4				
	(4) BRIEF DESCRIPTION (Brief scope, size, cost, e Pennsylvania Department of General Service and design for spillway replacement. Baker was to bring the dam into compliance with PADEF a parapet wall was designed. Construction di ensure that the construction is conducted in a	es. Senior Structural Envas responsible for the every regulations regarding spreamings and specifications.	gineer. Responsible valuation of Somerset oillway capacity and rest of the selected after act documents. Cost:	☐ Check if profer the structural inverse Lake Dam to determination to overtoppinative were prepared. \$402,651 (Fee); \$3,8	ne what measures were needed ng. A new labyrinth spillway with Baker will perform oversight to 20,000 (Est. Construction)				
	TITLE AND LOCATION (City and State)			OMPLETED	RELEVANT PROJECT NUMBER				
	Monte-Mere Lake Dam Rehabilitation		DESIGN 2010	construction 2011 (est.)	9				
	Geauga County, Ohio BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE	1 20.0		l oject performed with current firm				
	Monte-Mere Lake Association. Senior Struc Conducted an inspection of the dam and de grouting conducted on a grid pattern to fill	tural Engineer. Respons eveloped an approach to	repair the existing co	al investigation, asses oncrete apron. This a	sment, analysis and structural. approach would utilize pressure				

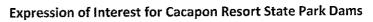
underdrain believed to be directly connected to the reservoir and the required documentation. Working with the Association to conduct hydraulic modeling of a dam break. Results of dam break modeling will be used to determine if the classification of the dam can be reduced, allowing them

to avoid additional rehabilitation. Cost: \$45,000 (Fee), \$300,000 (Est. Construction)





		RESUMES OF KI	EY PERSONNEL		
		DOLE IN THE	CONTRACT	YEA	ARS EXPERIENCE
	NAME	ROLE IN THIS Staff Er		TOTAL	WITH CURRENT FIRM
	Edward Kaminski, PE	Stail Et	iginee:	6	6
	MNAME AND LOCATION (City and State) hael Baker Jr., Inc., Moon Township, Pen	nsylvania			
	CATION (DEGREE AND SPECIALIZATION)		CURRENT PROFESS	IONAL REGISTRATION (STATE AND DISCIPLINE)
BS.	Civil Engineering, The Pennsylvania Stat	e University	Professional Eng		51.11.
Mr	NERAL QUALIFICATIONS Kaminski is a Water Resources Engineer ex	perienced in hydrologic	and hydraulic compo	uter modeling, reservoi	r routing, dam break modeling
dew	atering time calculations, spillway adequacy (determination, stilling bas	in design, labyrinth	capacity determination,	, overtopping revetment desigi
	et work replacement, and inundation mapping. Sedimentation Control Plans, and wetland miti		ped Stormwater Mar	lagement reports, NFD	E3 Ferriit Approations, Liosio
	Oct.				
Ī	TITLE AND LOCATION (City and State)		YEAR CO	OMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER
- 1	United States Steel Corporation – EAF	and OMI	2010	2012 (est.)	NA
	Development for Existing Dam Lorain, Ohio				.,,
ı	BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE			ect performed with current firm
1	United States Steel Corporation. Staff Engin	ieer. Developed an Oper	ation, Maintenance,	and Inspection (OMI) a	and an Emergency Action Plan
a.	(EAP) for an existing impoundment located	in Lorain, Ohio. The ON	//I Manual was prep	ared in accordance wi	th ODNR's "Guidelines for an
	Operation, Maintenance and Inspection Manufor their inspector's to enable them to recogn	ian. It was prepared to gi	ve the chent instructi phact the embankm	on on the sale operation ent's structural integrity.	and describe both the routine
	and non-routine maintenance activities requi	red to ensure the long te	rm stability of the st	ructure. The EAP was	developed in accordance with
	ODNR's "Emergency Action Plan (EAP) Guid	elines" and followed the fo	ormat proposed by th	ie Interagency Committ	ee on Dam Safety (ICODS). It
	provided the client with easy to follow guidance	ce for the selection and im	plementation of appr	opriate level of action, r	monitoring, and notification in a
_	potential dam failure situation. Cost: \$40,800	(Fee)	VEAR CO	OMPLETED	RELEVANT PROJECT NUMBER
1	TITLE AND LOCATION (City and State) Dutch Fork Lake Dam - Dam Renovati	one	DESIGN	CONSTRUCTION	TELEVALVI NOVEO NOMBER
	Donegal Township, Pennsylvania	V113	2012 (est.)	2012 (est.)	1
ŀ	BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE	<u></u>		ject performed with current firm
.	Pennsylvania Department of General Servic	es. Staff Engineer. Res	ponsible for prepara	ition of Hydrologic and	Hydraulic analysis, plans and
b.	specifications for embankment overtopping p	protection and spillway re	placement. Baker w	as responsible for the	evaluation of Dutch Fork Lake
	Dam to determine what measures were ne	eded to bring the dam in	nto compliance with	PADEP regulations re	egarding spillway capacity and
1	resistance to overtopping. A new spillway a	and roller compacted cor	crete overtopping p	rotection were designed	ed. Construction drawings and
	specifications of the selected alternative were	prepared. Baker will per	torm oversight to en	sure that the construct	on is conducted in accordance
	with the contract documents. Cost: \$482,700 TITLE AND LOCATION (City and State)	(ree), \$4,705,000 (Est. C		OMPLETED	RELEVANT PROJECT NUMBER
	Kyle Lake Dam - Dam Renovations		DESIGN	CONSTRUCTION	
	Jefferson County, Pennsylvania		2012 (est.)	2013 (est.)	3
1	BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE			ject performed with current firm
	Pennsylvania Department of General Service	es. Staff Engineer. Res	ponsible for prepara	ition of Hydrologic and	Hydraulic analysis, plans and
C.	specifications for embankment overtopping p	rotection and spillway rec	onstruction. Baker w	as responsible for the	evaluation of Kyle Lake Dam to
	determine what measures were needed to be	ring the dam into complia	nce with PADEP reg	julations regarding spill	way capacity and resistance to
	overtopping. New gate house, outlet works, specifications of the selected alternative were	and articulated concrete	· block overlopping (protection were design	ion is conducted in accordance
	with the contract documents. Cost: \$451,188	3 prepared. Baker will per 2 (Foo) \$3 420 000 (Fot (nomi oversigni to en Construction)	Sure that the constituct	on is conducted in accordance
	TITLE AND LOCATION (City and State)	11 00), 90, 720,000 (LSt. C		OMPLETED	RELEVANT PROJECT NUMBER
	Somerset Lake Dam Renovations		DESIGN	CONSTRUCTION	4
	Somerset Township, Pennsylvania		2012 (est.)	2013 (est.)	
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE			ject performed with current firm
d.	Pennsylvania Department of General Servi	ces. Staff Engineer. De	veloped Hydrologic	and Hydraulic analysis	s, plans and specifications to
	embankment overtopping protection and spill into compliance with PADEP regulations reg	way replacement. Baker \	was responsible for t	ne evaluation of Somet stopping. A labyripth s	set take ball to bling the dail
	into compliance with PADEP regulations regidesigned. Construction drawings and speci	arding spillway capacity a	alternative were nr	enared Baker will be	form oversight to ensure tha
	construction is conducted in accordance with	contract documents. Cos	t: \$402.651 (Fee). \$3	8,820,000 (Est. Construe	ction)
	TITLE AND LOCATION (City and State)		YEAR C	OMPLETED	RELEVANT PROJECT NUMBER
	Canonsburg Lake Dam - Dam Renova	tions	DESIGN	CONSTRUCTION	5
	Canonsburg Lake, Pennsylvania		2012 (est.)	2012 (est.)	
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE	alamad Lhudtt	☐ Check if pro	pject performed with current firm
е.	Pennsylvania Department of General Service and backwater effects due to constrictions w	es. Statt Engineer. Dev	eloped mydrologic a m of the dam. Overt	nu myuraunc anaiysis, ooning denths evceede	moleuny roading determination d 18ft with backwater denths in
	excess of 45ft. Baker was responsible for the	e evaluation of Canonsbi	ira Lake Dam to det	ermine what measures	were needed to bring the dan
	into compliance with PADEP regulations red	arding the stability of the	concrete gravity dar	m. A post tensioning ar	nchoring system was designed
	Construction drawings and specifications of t	he selected alternative we	ere prepared.Baker i	will perform oversight to	ensure that the construction is
	conducted in accordance with the contract do	cuments. Cost: \$369,300) (Fee), \$3,500,000 (Est. Construction)	





		RESUMES OF KE	Y PERSONNEL							
	NAME	ROLE IN THIS	CONTRACT	YEA	ARS EXPERIENCE					
	Edward Barefield, PG	Staff Ge		TOTAL	WITH CURRENT FIRM					
(IDA	NAME AND LOCATION (City and State)			5	5					
Vici	hael Baker Jr., Inc., Beaver, Pennsylvania									
DU	CATION (DEGREE AND SPECIALIZATION)				N (STATE AND DISCIPLINE)					
VIS,	Engineering Geology, Kent State University	sity	Professional Geo	logist: PA						
Μr	ERAL QUALIFICATIONS Barefield is an Engineering Geologist within contract administration/coordination, laboratory	the Geotechnical Group	at Baker. His ged	otechnical experience	includes drilling inspection and					
nter	pretation detailed soil and rock slope stabil	itv analvses. structure fo	undation bearing ca	ipacity and settlement	: calculations, mine subsidence					
val	uations, aerial and satellite photograph inter	pretation, field geology re	econnaissance and	sampling, geotechnica	al literature review, drilling and					
abo	ratory testing program preparation and executi			views.						
	TITLE AND LOCATION (City and State)	RELEVANT I		MPLETED	RELEVANT PROJECT NUMBER					
	Dutch Fork Lake Dam - Dam Renovation	ons	DESIGN	CONSTRUCTION	1					
- 1	Donegal Township, Pennsylvania	<u>.</u>	2012 (est.)	2012 (est.)	<u>-</u>					
ı	BRIEF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE	- "		ject performed with current firm					
- [Pennsylvania Department of General Service	es. Geologic Associate.	Responsible for ge	eotechnical drilling inst	etimates for drilling and testing					
a.	selection, test boring log preparation, geotech work using established drilling and testing u	inical site reconnaissance nit prices - Baker was res	, and dam inspection monsible for the eva	i. Also prepared cost e aluation of Dutch Fork	Lake Dam to determine what					
- 1	measures were needed to bring the dam into	compliance with PADEP	regulations regardir	ng spillway capacity an	d resistance to overtopping. A					
- 1	new spillway and roller compacted concrete	overtopping protection w	ere designed. Cons	truction drawings and	specifications of the selected					
- 1	alternative were prepared. Baker will perform	oversight to ensure that t	he construction is co	onducted in accordance	e with the contract documents.					
	Cost: \$482,700 (Fee); \$4,765,000 (Est. Const	ruction)	VEAD OF	DMPLETED I	RELEVANT PROJECT NUMBER					
	TITLE AND LOCATION (City and State)		DESIGN PEAR CL	CONSTRUCTION						
1	Donegal Lake Dam - Dam Renovations Donegal, Pennsylvania		2012 (est.)	2013 (est.)	2					
ŀ	BRIFF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE			ject performed with current firm					
. I	Pennsylvania Department of General Service	es. Geologic Associate.	Responsible for on-	site test boring inspec	tion and oversight. Performed					
b.	dam inspection. Developed geotechnical laboration	oratory testing program for	design of dam reha	bilitation. Baker was re	esponsible for the evaluation of					
	Donegal Lake Dam to determine what mea	sures were needed to bri	ng the dam into co	mpliance with PADEP	regulations regarding spillway					
- 1	capacity and resistance to overtopping. N Construction drawings and specifications of the	ew stilling basin slabs a	and roller compacts	o concrete overtoppii vill nerform oversight to	ensure that the construction is					
- 1	conducted in accordance with the contract do	cuments. Cost: \$428.724	(Fee): \$3.377.000 (E	est. Construction)						
-	TITLE AND LOCATION (City and State)		YEAR CO	DMPLETED	RELEVANT PROJECT NUMBER					
	Kyle Lake Dam - Dam Renovations		DESIGN	construction 2013 (est.)	3					
- 1	Kyle Lake, Pennsylvania		2012 (est.)		in the second with according					
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) Pennsylvania Department of General Service	AND SPECIFIC ROLE	Reenoneible for a		ject performed with current firm nection, and Jahoratory sample.					
	selection, test boring log preparation, geotech	nical site reconnaissance	and dam inspection	n. Also, prepared cost e	estimates for drilling and testing					
C.	work using established drilling and testing un	it prices. Baker was resp	onsible for the evalu	iation of Kyle Lake Dai	m to determine what measures					
1	work using established drilling and testing unit prices. Baker was responsible for the evaluation of Kyle Lake Dam to determine what measures were needed to bring the dam into compliance with PADEP regulations regarding spillway capacity and resistance to overtopping. New gate									
	house, outlet works, and articulated concre	te block overtopping pro	tection were design	ed. Construction draw	rings and specifications of the					
	selected alternative were prepared. Baker will perform oversight to ensure that the construction is conducted in accordance with the contract									
_	documents Cost: \$451,188 (Fee); \$3,420,0	00 (Est. Construction)	YEAR CO	OMPLETED	RELEVANT PROJECT NUMBER					
	TITLE AND LOCATION (City and State) Somerset Lake Dam Renovations		DESIGN	CONSTRUCTION	A					
	Somerset Township, Pennsylvania		2012 (est.)	2013 (est.)	4					
	BRIFF DESCRIPTION (Brief scope, size, cost, etc.)	AND SPECIFIC ROLE			pject performed with current firm					
d.	Pennsylvania Department of General Service	ces. Geologic Associate.	Responsible for g	eotechnical drilling ins	pection and laboratory sample					
۳.	selection, test boring log preparation, geotech using established drilling and testing unit price	nnical site reconnaissance	, and dam inspection	n. Prepared cost estima	ates for uniting and testing work					
1	using established drilling and testing unit price to bring the dam into compliance with PADEF	es. Baker was responsib Pregulations regarding sni	le for the evaluation llway canacity and r	esistance to overtoppin	a. A new labyrinth spillway with					
	a parapet wall was designed. Construction d	rawings and specifications	of the selected alte	rnative were prepared.	Baker will perform oversight to					
	ensure that the construction is conducted in a	ccordance with the contra	ct documents. Cost:	\$402,651 (Fee); \$3,82	20,000 (Est. Construction)					
\dashv	TITLE AND LOCATION (City and State)		YEAR C	OMPLETED	RELEVANT PROJECT NUMBER					
	Canonsburg Lake Dam - Dam Renova	tions	DESIGN 2012 (pet)	construction 2012 (est.)	5					
ı	Canonsburg Lake, Pennsylvania		2012 (est.)		pject performed with current firm					
	BRIEF DESCRIPTION (Brief scope, size, cost, etc.) Pennsylvania Department of General Servi	AND SPECIFIC ROLE	Responsible for a	oneck it pro الكيا eotechnical drilling ins	pection and laboratory sample					
e.	selection, test boring log preparation, geotec	hnical site reconnaissance	e, and dam inspectio	n. Also prepared cost :	estimates for drilling and testing					
ļ	work using established drilling and testing u	nit prices. Baker was res	ponsible for the eva	luation of the dam to (determine what measures were					
	needed to bring the dam into compliance with	h PADEP regulations rega	rding the stability of	the concrete gravity da	am. A post tensioning anchoring					
	system was designed. Construction drawings	s and specifications of the	selected alternative	were prepared, baker 200 (Fee): \$3 500 000 (Will perform oversight to ensure					



Expression of Interest for Cacapon Resort State Park Dams

		RESUMES OF K	EY PERSONNEL		
NAME		ROLE IN THIS CONTRAC	ī	YE	ARS EXPERIENCE
	Gregory P. Hynes, PE	Senior I	Engineer	TOTAL 23	WITH CURRENT FIRM 19
	IAME AND LOCATION (City and State) iel Baker Jr., Inc., Beaver, Pennsylvani	a			
1.S.,	(TION (DEGREE AND SPECIALIZATION) Civil Engineering, Youngstown State U Civil Engineering, Youngstown State U			FESSIONAL REGISTRATI neer, WV, OH, VA, PA	ON (STATE AND DISCIPLINE)
r. Hy ans p ater irty a eatm	PAL QUALIFICATIONS These is an engineer with a background in recoverparation, hydrologic and hydraulic analyse distribution systems, hydraulic structures, a subandoned mine land reclamation projects went of passive and active water, evaluation projects have been for the West Virginia Detail as project engineer for over 30 water distribution.	sis, and erosion and sedim nd sanitary collection syste which include reclamation of of pre-law mining impacts partment of Environmenta	ent control structure ems; and permitting of coal refuse piles, s on drinking water su I Protection, Abando	es. He also has extensive of mining facilities. At Be sealing of mine portals, applies, and restoration of oned Mine Lands and Re	e experience in the design of aker, he has worked on over grouting for mine subsidence, of stream channels. Many of
		RELEVANT	PROJECTS		
V	TLE AND LOCATION (City and State) /ymer Portals and Refuse & Davidso lonongalia County, WV RIEF DESCRIPTION (Brief scope, size, cost, etc.		YEAR 0 DESIGN 2009	COMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER 10 Dject performed with current firm
. oʻ W a: re	Vest Virginia Department of Environmental versaw assistant engineers, performed result of VDOH permits for stream channel relocation depreconstruction meetings for the project established and relocated stream channed over placement, and revegetation. Cost. \$2.	earch of geological data a on and highway crossings at which included erosion is, open limestone channa	and mining maps, re . Prepared construction of and sedimentation of	eview of water quality da tion plans and specifica control measures, site (ata, preparation of USACE and tions and attendance at pre-bid grading, mine seals, bat gates,
	TLE AND LOCATION (City and State) owell River Ecosystem Restoration	Project, Virginia	YEAR O DESIGN 2004	COMPLETED	RELEVANT PROJECT NUMBER
. q q s	RIEF DESCRIPTION (Brief scope, size, cost, etc. I.S. Army Corps of Engineers, Nashville Duality data, and design of acid mine drainagettling ponds, open limestone channels, and thich included site grading, mine seals, collections.	istrict. Senior Engineer. I ge abatement measures, i d fly ash soil amendments	ncluding aerobic we . Prepared plans, sp	of geological data and tlands, successive alkal ecifications, and detaile	inity producing systems, metals d cost estimates for the project
	TLE AND LOCATION (City and State)	a County MAV	YEAR O	COMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER
	orgman Portals and Refuse, Presto	- -	2007	1	
w w ar	RIEF DESCRIPTION (Brief scope, size, cost, etc. Vest Virginia Department of Environmental I rater quality data, and initial design of acid netlands. Final design was provided without ttendance at pre-bid and preconstruction mover placement, and revegetation. Cost: \$	Protection. Senior Engineen nine drainage abatement rewetlands and ponds per re eetings for the project, whi	neasures including o equest of the client. I ch included site grad	search of geological da open limestone channels Prepared construction p ding, mine seals, collect	s, limestone ponds, and aerobic lans and specifications and ion and diversion ditches, soil
	ITLE AND LOCATION (City and State) I <mark>lller Mountain Feasibility Study, Pre</mark>	eston County, WV.	DESIGN 2008	COMPLETED CONSTRUCTION	RELEVANT PROJECT NUMBER
. И е	RIEF DESCRIPTION (Brief scope, size, cost, etc. Vest Virginia Department of Environmental I xtension requirements including design, cos roundwater and provided water supply alter	Protection. Senior Engineens at estimate, and narrative a	r. Provided concepti as part of a feasibility	ual water system evalua / report which assessed	pre-law mining impacts to local
	ITLE AND LOCATION (City and State)			COMPLETED	RELEVANT PROJECT NUMBER
۱×	Cempton Refuse and AMD, Tucker C	ounty, WV.	DESIGN 2007	CONSTRUCTION	
i. q q A	RIEF DESCRIPTION (Brief scope, size, cost, etc. Vest Virginia Department of Environmental I uality data, and design of acid mine drainag lkalinity Producing System, and an aerobic reconstruction meetings for the project whic ollection and diversion ditches, backfilling a	Protection. Senior Enginee e abatement measures, ir wetland. Prepared construct th included erosion and se	r. Performed resean cluding open limesto action plans and spe dimentation control	ch of geological data an one channels, a limesto cifications and attendan measures, site grading,	ne pond, a Successive ce at pre-bid and mine seals, rock underdrains,



	K	ey Personnel Pa	articipa	ation	In R	eleva	ınt P	rojec	:ts			
NAME	S OF KEY PERSONNEL	ROLE IN THIS CONTRACT		(Fill i	n "Relevar " under pr	RE nt Projects roject key	Key" sec	PROJEC tion below or participa 6	before co	ompleting me or simi	table: lar role:)	I 10
Mic	hael Baker Jr., I	nc.	- P 0	2	0					Visitoria anti-		100000
Jack	Dziubek, PE	Project Manager	0	2	6	0	6	0	Ø	8	0	
Willia	am D. Trimbath, PE	Principal-in-Charge	0	2	6	0	6	6	0	8	0	
Larry	Diday, PE, PLS	Quality Assurance / Control	0	2	6	0	©	0	0	8	9	
Chac	l Davis, PE	H&H Lead	0	2	6	0	6	0	9	8	0	
Dona	ald Green, PE	Geotechnical Lead	0	2	6	0	6					
Dona	ald Marburger, PE	Structural Lead	0	2	6	0	6	0	0	8	9	
Edwa	ard Kaminski, PE	Staff Engineer	0	0	8	4	6	0	0	8		
Edw	ard Barefield, PG	Staff Geologist	0	0	6	0	6					
Greg	ı Hynes, PE	Senior Engineer										0
			KAMPLE F	and Vision office	TS KE	WAN DAY HOUSE PROPER			0.600.750.700		TANK E	Service of the servic
NO.	TITLE OF EXAL	MPLE PROJECT (FROM SECTION	vF)	NO.	-	THE	OF EXA	MPLE PRO	OJECT (F	ROM SEC	HON F)	
0		- Dam Renovations ip, Washington County	7,	6	North Park Lake Dam Rehabilitation Wexford, Pennsylvania							
2	Donegal Lake Da Donegal Townsh Pennsylvania	m - Dam Renovations ip, Westmoreland Cou	nty,	Ø	Deer Lakes Park Dam Improvement Project Frazer and West Deer Township, Pennsylvania						t ania	
€	Kyle Lake Dam - Washington Tow Pennsylvania	Dam Renovations nship, Jefferson Coun	ty,	8		Latodomi Nature Center Pond Restoration Wexford, Pennsylvania						
0	Somerset Lake Dam - Dam Renovations Somerset Township, Somerset County, Pennsylvania					nte-Mer ntville 1						
6	Peters and North	e Dam – Dam Renovati Strabane Townships, nty, Pennsylvania	ons	0		ner Po nongali					lighwa	II,



RELEVANT PROJECT EXPERIENCE MATRIX





RELEVANT PROJECT NUMBER 1

TITLE AND LOCATION (City and State)
Dutch Fork Dam - Dam Renovations
Donegal Township, Washington County, Pennsylvania

Pennsylvania Fish and Boat Commission

Baker

YEAR COMPLETED
PROFESSIONAL SERVICES | CONSTRUCTION (if applicable)

2012 (estimated) 2012 (estimated)

PROJECT OWNER'S INFORMATION

PROJECT OWNER
Pennsylvania Department of General Services

POINT OF CONTACT NAME

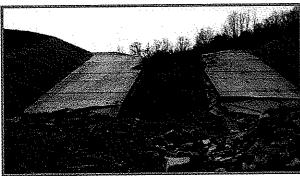
Dwight Herrmann, PE

Jerry Woomer, PE

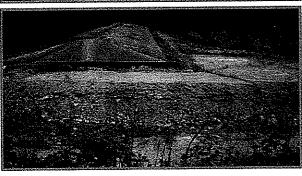
POINT OF CONTACT TELEPHONE NUMBER

717.787.6609 814.359.5170

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



Dutch Fork Lake Dam, located in Washington County, Pennsylvania, is owned by the Pennsylvania Fish & Boat Commission (PFBC). The dam was constructed in 1959 and created Dutch Fork Lake which was a heavily utilized recreational facility before the dam was breached by the PFBC in 2005 after damage to the spillway occurred during Hurricane Ivan. Under contract with the Pennsylvania Department of General Services (PADGS), Baker was responsible for designing the replacement of the spillway and evaluating the dam's compliance with the current Pennsylvania Department of Environmental Protection (PADEP) regulations with regard to overtopping protection during the design event. Baker reviewed existing drawings and reports, performed field inspections, and conducted a topographical survey and subsurface investigation to evaluate the current condition of the dam.



In addition to the need for a new spillway, it was determined that due to the height of overtopping a Roller Compacted Concrete (RCC) protection system was required. Options to replace the outlet works of the existing control tower, including the reuse of the existing structure while incorporating a dewatering valve and aluminum stoplogs, were also developed. Conceptual cost estimates and design documentation were developed for each of the alternatives.

Hydrologic and Hydraulic Analysis. The hydrologic and hydraulic analysis included the determination of the Probable Maximum Flood (PMF) as well as the 100-year design storm. A stage discharge curve was developed and flows were routed through the reservoir in order to determine the outflow from the dam, and the duration and height of overtopping. A backwater

analysis was conducted to determine the appropriate tailwater conditions based on various overtopping depths. This was then used to evaluate the overtopping flow in order to design the appropriate runout length of the RCC revetment to contain the hydraulic jump. Dewatering calculations were developed to determine the maximum drawdown of the lake as well as verify that the existing outlet conduit is sufficient.

Geotechnical Investigation. A geotechnical investigation was conducted to determine the conditions under the existing spillway as well as providing information if widening the spillway is required. This was achieved by collecting borings and corings which were analyzed along with the information that was collected from previous studies.

Structural Analysis. A structural assessment of the existing spillway and control tower was conducted. The primary spillway was breached in 2005 and required complete replacement. The control tower inspection indicated that the structure was in good condition and did not require any structural work at this time.

Coordination with Regulatory Agencies. Baker took a proactive approach with the regulatory agencies by holding joint meetings with the owner and presenting the viable alternatives. By doing so, the regulatory agency was involved in the selection of the alternative and the owner understood the cost implications of the alternatives and was able to discuss that with the regulatory agency. This has expedited the review process and achieved buy-in from PADGS, PFBC, and PADEP on the decisions.

Construction Administration. Baker will provide construction management oversight to ensure that the construction is conducted in accordance with the drawings and specifications. This will involve site inspections, progress meetings, and daily inspections during the construction of key components.

Project Cost: \$482,700 (Fee); \$4,765,000 (Estimated Construction)

Michael Baker Jr., Inc. Moon Township, Pennsylvania Dam Inspection; Rehabilitation Design; Hydrologic and Hydraulic		FIRMS INVOLVE	ED WITH THIS PROJECT
Development, Analysis, and Screening; Construction Management	ā.	 Moon Township, Pennsylvania	Analysis; Geotechnical Investigation; Structural Analysis; Alternative





YEAR COMPLETED Baker

TITLE AND LOCATION (City and State) **Donegal Lake Dam - Dam Renovations** Donegal Township, Westmoreland County, Pennsylvania

PROJECT OWNER

PROFESSIONAL SERVICES 2012 (estimated)

CONSTRUCTION (if applicable) 2013 (estimated)

RELEVANT PROJECT NUMBER

2

PROJECT OWNER'S INFORMATION

Pennsylvania Department of General Services Pennsylvania Fish and Boat Commission

POINT OF CONTACT NAME Dwight Herrmann, PE Jerry Woomer, PE

POINT OF CONTACT TELEPHONE NUMBER 717.787.6609 814.359.5170

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope; size, and cost)

Donegal Lake Dam, located in Westmoreland County, Pennsylvania, is owned by the Pennsylvania Fish & Boat Commission (PFBC). The dam was constructed in 1967 and creates Donegal



Lake which is a heavily utilized recreational facility. Under contract with the Pennsylvania Department of General Services (PADGS), Baker was responsible for evaluating the dam's compliance with the current Pennsylvania Department of Environmental Protection (PADEP) regulations regarding spillway capacity and overtopping protection during the design event. Baker reviewed existing drawings and reports, performed field inspections, and conducted a topographical survey and subsurface investigation to evaluate the current condition of the dam.

Alternatives were evaluated for widening the spillway as well as protecting the embankment during overtopping. It was determined that due to the depth of overtopping a Roller Compacted Concrete (RCC) protection system was required. The primary spillway was determined to be in good condition and could adequately convey the 100-year storm event. In addition, options to replace the outlet works in the existing control tower were developed, including the reuse of the existing structure while incorporating a dewatering valve and aluminum stoplogs. Conceptual cost estimates and design documentation were developed for each of the alternatives.

Hydrologic and Hydraulic Analysis. The hydrologic and hydraulic analysis included the determination of the Probable Maximum Flood (PMF) as well as the 100-year design storm. A stage discharge curve was developed and flows were routed through the reservoir in order to determine the outflow from the dam, and the duration and height of overtopping. A backwater analysis was conducted to determine the appropriate tailwater conditions based on various overtopping depths. This was then used to evaluate the overtopping flow in order to design the appropriate runout length of the RCC revetment to contain the hydraulic jump. Dewatering calculations were developed to determine the maximum drawdown of the lake as well as verify that the existing outlet conduit is sufficient.

Geotechnical Investigation. A geotechnical investigation was conducted to determine the conditions of the existing spillway as well as providing information if widening the spillway is required. This was achieved by collecting borings and corings of the concrete to assess the condition of the concrete as well as the condition of the existing drainage features under the structure.

Structural Analysis. A structural assessment of the existing spillway and control tower was conducted. The primary spillway was found to be in good condition and only minor spall and crack repairs were required. The control tower inspection indicated that the structure was in good condition and did not require any structural work at this time.

Coordination with Regulatory Agencies. Baker took a proactive approach with the regulatory agencies by holding joint meetings with the owner and presenting the viable alternatives. By doing so, the regulatory agency was involved in the selection of the alternative and the owner understood the cost implications of the alternatives and was able to discuss that with the regulatory agency.

This has expedited the review process and achieved buy-in from PADGS, PFBC, and

PADEP on the decisions.

Construction Administration. Baker will provide construction management oversight to ensure that the construction is conducted in accordance with the drawings and specifications. This will involve site inspections, progress meetings, and daily inspections during the construction of key components.

Project Cost: \$428,724 (Fee); \$3,377,000 (Estimated Construction)

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(2) FIRM LOCATION (City and State) (3) ROLE (1) FIRM NAME Dam Inspection; Rehabilitation Design; Hydrologic and Hydraulic Moon Township, Pennsylvania Michael Baker Jr., Inc. Analysis: Geotechnical Investigation; Structural Analysis; Alternative Development, Analysis, and Screening; Construction Management





RELEVANT PROJECT NUMBER 3

TITLE AND LOCATION (City and State)
Kyle Lake Dam - Dam Renovations
Washington Township, Jefferson County, Pennsylvania

Baker

YEAR COMPLETED
PROFESSIONAL SERVICES CONSTRU

2012 (estimated)

CONSTRUCTION (if applicable)
2013 (estimated)

PROJECT OWNER'S INFORMATION

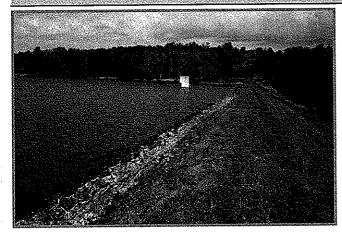
PROJECT OWNER

Pennsylvania Department of General Services Pennsylvania Fish and Boat Commission POINT OF CONTACT NAME

Dwight Herrmann, PE Jerry Woomer, PE POINT OF CONTACT TELEPHONE NUMBER

717.787.6609 814.359.5170

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



Kyle Lake Dam, located in Jefferson County, Pennsylvania, is owned by the Pennsylvania Fish & Boat Commission (PFBC). The dam was constructed in 1910 and creates Kyle Lake which is a heavily utilized recreational facility. Under contract with the Pennsylvania Department of General Services (PADGS), Baker was responsible for evaluating the dam's compliance with the current Pennsylvania Department of Environmental Protection (PADEP) regulations regarding spillway capacity and overtopping protection during the design event. Baker reviewed existing drawings and reports, performed field inspections including an internal assessment of the gate house structure, and conducted a topographical survey and subsurface investigation to evaluate the current condition of the dam.

Alternatives were evaluated for widening the spillway as well as protecting the embankment during overtopping. It was determined that due to the relatively low depth of overtopping an Articulated Concrete Block (ACB) protection system would be the most cost-effective

solution. The auxiliary spillway was determined to be in poor condition and alternatives were developed for its replacement. In addition, the existing gate house was found to be in poor condition and rehabilitation options were developed, which included the replacement of the outlet works. Conceptual cost estimates and design documentation were developed for each of the alternatives.

Hydrologic and Hydraulic Analysis. The hydrologic and hydraulic analysis included the determination of the Probable Maximum Flood (PMF) as well as the 100-year design storm. A stage discharge curve was developed and flows were routed through the reservoir in order to determine the outflow from the dam and the duration and height of overtopping. A backwater analysis was conducted to determine the appropriate tailwater conditions based on various overtopping depths. This was then used to evaluate the overtopping flow in order to design the appropriate runout length of the ACB revetment to contain the hydraulic jump as well as determine the size of ACB required. Dewatering calculations were developed to determine the maximum drawdown of the lake as well as verify that the existing outlet conduits were sufficient.

Geotechnical Investigation. A geotechnical investigation was conducted to determine the appropriate foundation design for the spillway and gate house. Soil borings and concrete corings were taken to assess the condition of the concrete as well as the condition of the existing drainage features under the structure. Barge drilling was required for the intake structure.

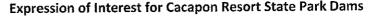
Structural Analysis. A structural assessment of both existing spillways and the gate house were conducted. The auxiliary spillway was found to be in poor condition while the primary spillway was in good condition. The gate house inspection required the structure to be dewatered by closing the intake valves and opening the outlet valves before entering into the structure. This assessment determined that the concrete at the normal water level of the reservoir was in poor condition and required replacement.

Coordination with Regulatory Agencies. Baker took a proactive approach with the regulatory agencies by holding joint meetings with the owner and presenting the viable alternatives. By doing so, the regulatory agency was involved in the selection of the alternative and the owner understood the cost implications of the alternatives and was able to discuss that with the regulatory agency. This has expedited the review process and achieved buy-in from PADGS, PFBC, and PADEP on the decisions.

Construction Administration. Baker will provide construction management oversight to ensure that the construction is conducted in accordance with the drawings and specifications. This will involve site inspections, progress meetings, and daily inspections during the construction of key components.

Project Cost: \$451,188 (Fee); \$3,420,000 (Estimated Construction)

	FIRMS INVOLV	ED WITH THIS PROJECT
a. (1) FIRM NAME Michael Baker Jr., Inc.	(2) FIRM LOCATION (City and State) Moon Township, Pennsylvania	(3) ROLE Dam Inspection; Rehabilitation Design; Hydrologic and Hydraulic Analysis; Geotechnical Investigation; Structural Analysis; Alternative Development, Analysis, and Screening; Construction Management





RELEVANT PROJECT NUMBER

4

TITLE AND LOCATION (City and State) Somerset Lake Dam - Dam Renovations Somerset Township, Somerset County, Pennsylvania

=a ker

YEAR COMPLETED PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2012 (estimated)

2013 (estimated)

PROJECT OWNER'S INFORMATION

POINT OF CONTACT NAME

PROJECT OWNER Pennsylvania Department of General Services

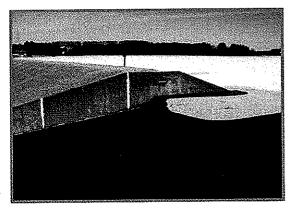
Pennsylvania Fish and Boat Commission

Dwight Herrmann, PE Jerry Woomer, PE

717.787.6609 814.359.5170

POINT OF CONTACT TELEPHONE NUMBER

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



Somerset Lake Dam, located in Somerset County, Pennsylvania, is owned by the Pennsylvania Fish & Boat Commission (PFBC). The dam was constructed in 1956 and creates Somerset Lake which is a heavily utilized recreational facility. Under contract with the Pennsylvania Department of General Services (PADGS), Baker was responsible for evaluating the dam's compliance with the current Pennsylvania Department of Environmental Protection (PADEP) regulations regarding spillway capacity and overtopping protection during the design event. Baker reviewed existing drawings and reports, performed field inspections, and conducted a topographical survey and subsurface investigation to evaluate the current condition of the dam.

Alternatives were evaluated for widening the spillway as well as protecting the embankment during overtopping. It was determined that the existing spillway needed to be replaced due to contamination in the underdrain system. A new labyrinth weir spillway which would contain the entire design event was determined

to be the most cost effective alternative. No overtopping protection would be required with this alternative. In addition, options to replace the outlet works in the existing control tower were developed, including the reuse of the existing structure while incorporating a dewatering valve and aluminum stoplogs. Conceptual cost estimates and design documentation was developed for each of the alternatives.

Hydrologic and Hydraulic Analysis. The hydrologic and hydraulic analysis included determination of the Probable Maximum Flood (PMF) as well as the 100-year design storm. A stage discharge curve was developed and flows were routed through the reservoir in order to determine the outflow from the dam and the duration and height of overtopping. A backwater analysis was conducted to determine the appropriate tailwater conditions based on various overtopping depths. This was then used to design a labyrinth weir spillway that is capable of conveying the PMF event. Dewatering calculations were developed to determine the maximum drawdown of the lake as well as verify that the existing outlet conduit is sufficient.

Geotechnical Investigation. A geotechnical investigation was conducted to determine the conditions of the existing spillway as well as providing information if widening the spillway is required. This was achieved by collecting borings and corings of the concrete to assess the condition of the concrete as well as the condition of the existing drainage features under the structure. This investigation concluded that the drainage material was contaminated which resulted in the decision to replace the spillway.

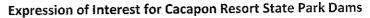
Structural Analysis. A structural assessment of the existing spillway and control tower was conducted. The primary spillway was found to be in good structural condition and only minor spall and crack repairs were required from a structural standpoint. The control tower inspection indicated that the structure was in good condition and did not require any structural work at this time.

Coordination with Regulatory Agencies. Baker took a proactive approach with the regulatory agencies by holding joint meetings with the owner and presenting the viable alternatives. By doing so, the regulatory agency was involved in the selection of the alternative and the owner understood the cost implications of the alternatives and was able to discuss that with the regulatory agency. This has expedited the review process and achieved buy-in from PADGS, PFBC, and PADEP on the decisions.

Construction Administration. Baker will provide construction management oversight to ensure that the construction is conducted in accordance with the drawings and specifications. This will involve site inspections, progress meetings, and daily inspections during the construction of key components.

Project Cost: \$402,651 (Fee); \$3,820,000 (Estimated Construction)

	FIRMS INVO	LVED WITH THIS PROJECT
a.	,	(3) ROLE Dam Inspection; Rehabilitation Design; Hydrologic and Hydraulic Analysis; Geotechnical Investigation; Structural Analysis; Alternative Development, Analysis, and Screening; Construction Management





RELEVANT PROJECT NUMBER

TITLE AND LOCATION (City and State)

Canonsburg Lake Dam - Dam Renovations

PROJECT OWNER

Peters and North Strabane Townships, Washington County,

Pennsylvania

se ker

PROFESSIONAL SERVICES

2012 (estimated)

CONSTRUCTION (if applicable) 2012 (estimated)

PROJECT OWNER'S INFORMATION

Pennsylvania Department of General Services Pennsylvania Fish and Boat Commission

POINT OF CONTACT NAME Dwight Herrmann, PE Jerry Woomer, PE

POINT OF CONTACT TELEPHONE NUMBER

717,787,6609 814.359.5170

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Canonsburg Lake Dam, located in Washington County, Pennsylvania, is owned by the Pennsylvania Fish & Boat Commission (PFBC). The dam was built in 1943 to create a water supply for ALCOA's Canonsburg Forging Plant during Canonsburg Lake is currently used as a World War II. recreational facility. Under contract with the Pennsylvania Department of General Services (PADGS), Baker was responsible for designing a system to anchor the concrete dam to bedrock in order to provide resistance to sliding. Baker reviewed existing drawings and reports, performed field inspections, and conducted a subsurface investigation to evaluate the current condition of the dam.

Hydrologic and Hydraulic Analysis. Extensive hydrologic and hydraulic modeling was conducted in order to develop the hydraulic loading parameters for the stability analysis. This evaluation included the development of a complex stage discharge curve for the spillway as well as the remainder of the

structure given that it is completely overtopped during the Probable Maximum Flood (PMF).

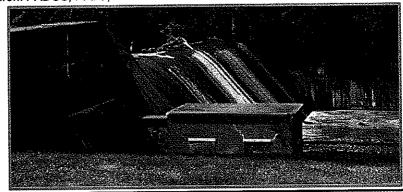
Geotechnical Investigation. A geotechnical investigation was conducted to evaluate the foundation conditions for the design of the rock anchors. This required barge drilling and existing information from previous studies was utilized to help reduce the amount of drilling that was required.

Structural /Stability Analysis. A stability analysis was conducted based on the US Army Corps of Engineers (USACE) guidance, EM 1110-2-2100. This analysis determined the number, size and location of anchors that were needed to meet the required safety factors for sliding and overturning. Conceptual cost estimates and design documentation were developed for the anchoring.

Coordination with Regulatory Agencies. Baker took a proactive approach with the regulatory agencies by holding joint meetings with the owner and presenting the viable alternatives. By doing so, the regulatory agency was involved in the selection of the alternative and the owner understood the cost implications of the alternatives and was able to discuss that with the regulatory agency. This has expedited the review process and achieved buy-in from PADGS, PFBC, and PADEP on the decisions.

Baker will provide Construction Administration. construction management oversight to ensure that the construction is conducted in accordance with the drawings and specifications. This will involve site inspections, progress meetings, and daily inspections during the construction of key components.

Project Cost: \$269,960 (Fee); \$3,500,000 (Estimated Construction)



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(1) FIRM NAME Michael Baker Jr., Inc. (2) FIRM LOCATION (City and State) Moon Township, Pennsylvania (3) ROLE Dam Inspection; Rehabilitation Design; Hydrologic and Hydraulic Analysis; Geotechnical Investigation; Structural Analysis; Alternative Development, Analysis, and Screening; Construction Management





RELEVANT PROJECT NUMBER 6

TITLE AND LOCATION (City and State) North Park Lake Dam Rehabilitation Wexford, Pennsylvania

58 (G)

YEAR COMPLETED PROFESSIONAL SERVICES

2006

CONSTRUCTION (if applicable) 2008

27. PROJECT OWNER'S INFORMATION

PROJECT OWNER Allegheny County Department of Public Works

POINT OF CONTACT NAME Joseph Olczak

POINT OF CONTACT TELEPHONE NUMBER 412.350.4005

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

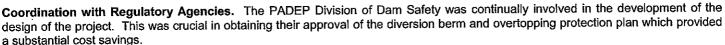
The North Park Lake Dam is a 1,130-foot long, 35-foot high earthen dam constructed in 1936 to create North Park Lake. North Park Lake, with a surface area of 75 acres, is the largest recreational lake in Allegheny County and is the central attraction in the Park. Baker was tasked with bringing the dam and concrete spillway into compliance with the current regulations of the PADEP's Division of Dam Safety and to maintain the certification of the dam. Baker conducted annual inspections and completed construction documents to provide overtopping protection of the embankment.

Hydrologic and Hydraulic Analysis. The hydrologic and hydraulic analysis of the Probable Maximum Flood (PMF) event revealed an expected overtopping depth of 11 feet. Through the innovative use of an earthen berm to divert the flow, Baker was able to reduce the total area requiring protection to approximately one-fourth of the original design which provided a substantial cost savings. Roller Compacted Concrete (RCC), Reinforced Concrete, and Articulated Concrete Block (ACB) alternatives were presented to the County and regulatory agencies. An ACB system was selected given it was the most economical, aesthetically pleasing, and functional system.

Structural Analysis. The outlet works of the gate house, consisting of a stop log system and sluice gate were rehabilitated / replaced based on the results of underwater inspections. Streambank stabilization was designed to repair severe erosion of the downstream channel that occurred due to Hurricane Ivan during the design stage of the project.

Emergency Action Plan. A dam break analysis was conducted to

develop inundation mapping to support a revision to the Emergency Action Plan.

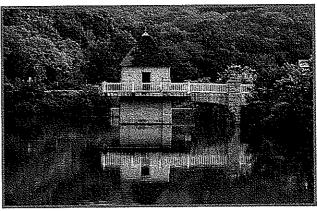


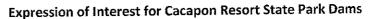
Construction Services. Construction services were provided throughout the project. These included; prebid meeting; bid review and recommendations; attendance at progress meetings, review and approval of shop drawings, pay requests, and change orders; onsite inspections as needed; final inspection; and generation of as-built drawings.

500 (Fee) \$1 100 000 (Construction)

P	Project Cost: \$175,300 (Fee), \$1,100,000 (Construction) FIRMS: INVOLVED WITH THIS PROJECT									
a.		(2) FIRM LOCATION <i>(City and State)</i> Moon Township, Pennsylvania	(3) ROLE Annual Dam Inspections; Agency Coordination and Permitting; Hydrologic and Hydraulic Modeling; Overtopping Protection Alternative Evaluation; Plans and Specifications for Rehabilitation of Dam, Gatehouse, and Spillway Construction Assistance							









RELEVANT PROJECT NUMBER

7

TITLE AND LOCATION (City and State)

Deer Lakes Park Dam Improvement Project

Frazer and West Deer Township, Pennsylvania

Baker

YEAR COMPLETED
PROFESSIONAL SERVICES CONSTRU

2005

CONSTRUCTION (if applicable) 2006

PROJECT OWNER'S INFORMATION

PROJECT OWNER

Allegheny County Department of Public Works

POINT OF CONTACT NAME

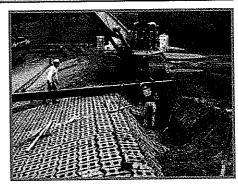
Joseph Olczak

POINT OF CONTACT TELEPHONE NUMBER 412.350.4005

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Deer Lakes Park, owned by Allegheny County, is a recreational facility whose prominent feature is a series of three man-made lakes and associated dams. Lake No. 1 was constructed as a commercial fishing facility before the County purchased the property in 1959 and Lakes 2 and 3 were constructed by the County in the early 1970s. Through this project, the Lake No. 1 dam, which was permitted as a Class C1 High Hazard Dam, was brought into compliance with current Pennsylvania Department of Environmental Protection (PADEP) Division of Dam Safety regulations.

Hydrologic and Hydraulic Analysis. The C1 classification required the dam to safely convey the Probable Maximum Flood (PMF). Hydrology and hydraulic analyses determined that the spillway could not convey the 100-year event. Spillway modification options to convey the PMF were determined to be cost prohibitive. Providing overtopping protection for the embankment was recommended by Baker as the most cost effective

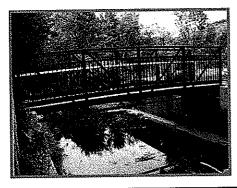


option to meet current regulations. Roller Compacted Concrete (RCC), Reinforced Concrete, and Articulated Concrete Block (ACB) alternatives were developed and presented to the County and regulatory agencies. The ACB system was selected given it was the most economical and visually appealing. An open cell ACB system was selected and the voids were filled with soil allowing the concrete blocks to be covered with vegetation and retaining a natural appearance. Due to the large depth to bedrock present at the toe of the dam, a submerged bucket design was used to control downstream scour, minimize the area of revetment required, and avoid impacting an existing wetland downstream of the embankment.

In order to meet current regulatory requirements, a dewatering system was provided. The system needed to provide dewatering capabilities with minimal impacts to the existing embankment; therefore, a siphon system was recommended. The system incorporated an 8-inch ductile iron pipe and a set of valves that allowed County staff to activate the siphon with minimal effort, which was essential given the remote location of the dam. This system provided for the dewatering of half the volume of the lake within 42 hours.

Structural Analysis. A structural assessment of the existing spillway was conducted and it was determined that only minor crack repairs were required. As part of this project, the existing wooden pedestrian bridge was replaced with a prefabricated steel bridge. Modifications to the walls of the spillway were designed to provide a bridge seat for the structure.

Coordination with Regulatory Agencies. Throughout the project, Baker worked closely with the County and PADEP Division of Dam Safety to develop a project that met the requirements of the regulatory agency in the most cost effective manner.



Emergency Action Plan. A dam break model was developed and used to determine the inundation mapping for the Emergency Action Plan. It was determined that the failure of this dam would result in the failure of the two dams immediately downstream, resulting in the potential for loss of life in the community downstream. As part of the Emergency Action Plan development, Baker met with the downstream community and developed a notification protocol in the event of a failure of the dam.

Construction Services. Construction services were provided throughout the project. These included; prebid meeting; bid review and recommendations; attendance at progress meetings, review and approval of shop drawings, pay requests, and change orders; onsite inspections as needed; final inspection; and generation of as-built drawings.

Project Cost: \$95,000 (Fee); \$375,000 (Construction)

	FIRMS FROM SECTION	C INVOLVED WITH THIS PROJECT
a.	,	(3) ROLE Annual Dam Inspections; Agency Coordination and Permitting; Hydrologic and Hydraulic Modeling; Overtopping Protection Alternative Evaluation; Plans and Specifications for Rehabilitation of Dam, Gatehouse, and Spillway Construction Assistance





RELEVANT PROJECT NUMBER 8

TITLE AND LOCATION (City and State)

Latodomi Nature Center Pond Restoration Wexford, Pennsylvania

Baker

YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2007

2008

PROJECT OWNER'S INFORMATION

PROJECT OWNER
Allegheny County Department of Public
Works

POINT OF CONTACT NAME

Joseph Olczak

POINT OF CONTACT TELEPHONE NUMBER 412.350.4005

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS GONTRACT (Include scope, size, and cost)

Originally part of a private farm, the pond is the focal point of the North Park Nature Center. Over the years the pond had filled with sediment, the embankment of the dam had been overgrown with trees, and the outlet channel had severely degraded to the point of becoming a safety concern. Baker's restoration design brought the facility into compliance with the current regulations of the PA Department of Environmental Protection (DEP) Division of Dam Safety in an ecologically friendly manner.

Recipient of the 2009
Pennsylvania ACEC
Diamond Award for
Environmental,
Restoration/Reclamation

Hydrologic and Hydraulic Analysis. A hydrologic and hydraulic analyses were conducted for the existing dam. A lackof maintenance had resulted in the primary outlet structure, a brick tower, to deteriorate to the point of becoming non-functional. This had resulted in the emergency spillway acting as the primary spillway which led to severe undercutting of concrete channel.

Structural Analysis. A structural assessment indicated that the spillway was structurally deficient and replacement was required. A concrete control weir was designed along with a riprap lined outlet channel and energy dissipation basin. The existing trees on the embankment were removed and the embankement was regraded to provide a level crest and a flatter downstream slope.

The existing control tower was determined to be structurally deficient and a replacement structure was designed. The new structure provided a low level valve, two feet of stop logs, and a trash rack. This structure provided additional operational flexability for the

County.

Dredging. Sediment removal was essential to restoring the pond and regaining educational opportunities at the Nature Center. Sediment had reduced the water surface to a 25% of its original size and the water depth had been reduced to less than two feet. A removal plan was developed to remove over 5,500 cubic yards of sediment and restore the pond to its original size and depth. A sediment forebay was established adjacent to the road to allow for easy maintenance to prevent sediment from entering the

pond.

Coordination with Regulatory Agencies. Throughout the design, Baker actively involved the County and regulatory agencies to ensure concurrence on the project.

This project restored a sediment filled pond to a fully functional facility that not only provides educational opportunities for the public, but also reintroduced aquatic life and increased the available habitat.

Project Cost: \$65,000 (Fee); \$265,000 (Construction)

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a.	(1) FIRM NAME Michael Baker Jr., Inc.	FIRMS INVO (2) FIRM LOCATION <i>(City and State)</i> Moon Township, Pennsylvania	(3) ROLE Hydrologic and Hydraulic Analyses; Structural Analyses; Regulatory Agency Coordination and Permitting; Embankment Protection; Spillway and Control Tower Replacement; Plans and Specifications for Construction; Dam Break Analysis; Dam Inspection and Construction Services





RELEVANT PROJECT NUMBER 9

TITLE AND LOCATION (City and State)
Monte-Mere Lake Dam Rehabilitation
Montville Township, Geauga County, Ohio

Baker

YEAR COMPLETED

PROFESSIONAL SERVICES 2010

CONSTRUCTION (if applicable) 2010

PROJECT OWNER'S INFORMATION

PROJECT OWNER

Monte-Mere Lake Homeowners Association, Inc.

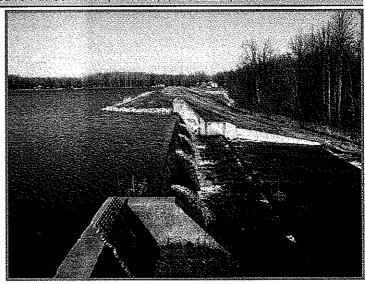
POINT OF CONTACT NAME
Mike Aschenbrener

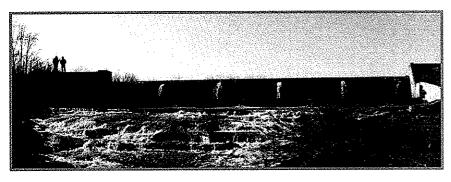
POINT OF CONTACT TELEPHONE NUMBER 216,952.2255

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope; size, and cost)

Monte-Mere Lake Dam (ODNR File Number 1510-001) is a Class I dam that was constructed in 1969. The original design included a straight drop principal spillway which relied on a plunge pool below to dissipate the energy of the flow. A concrete apron was added downstream of the spillway in 1973. In 2007, a geotechnical investigation revealed that voids are present under the existing concrete apron. This report also highlighted the finding of the 1980 Phase I Inspection which indicates that the spillway does not provide adequate energy dissipation, resulting in the continued erosion of the downstream channel.

The Monte-Mere Lake Association, Inc. (Association) is working with Baker to evaluate options and determine the most cost effective approach to meeting the current regulations. Baker conducted an inspection of the dam and developed an approach to repair the existing concrete apron. This approach would utilize pressure grouting conducted on a grid pattern to fill the voids under the concrete apron. There is also concern regarding the right training wall on the concrete apron which is currently leaning. Given the low height of the wall, it was felt that the best solution would be to buttress the existing wall with new walls that would be dowelled into the existing concrete apron.





Baker has also consulted with ODNR to discuss the concern regarding an underdrain that is thought to be directly connected to the reservoir. While the Association has drawn down the lake level in the past and bypassed the water through a temporary pipe in order to determine if this pipe underdrain was conveying water from the lake or collecting seepage from under the spillway structure, formal documentation was not submitted to ODNR. Baker is working with the Association to conduct another drawdown and document the results in order to provide a determination of the source of the pipe connection to ODNR.

Baker is also working with the Association to conduct hydraulic modeling of a dam break. The results of this model will establish if the dam classification can be reduced from a Class I given there may be no loss of life due a failure of the dam. Currently the dam would be a lower classification based on height and storage volume; however, it is classified as a Class I dam given it was felt that loss of life was possible. If the modeling does indicate that loss of life is probable, options to convey the PMF event will be evaluated. This would include expansion of the emergency spillway, replacement of the primary spillway and/or overtopping embankment protection.

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a. (1) FIRM NAME Michael Baker Jr., Inc. (2) FIRM LOCATION *(City and State)* Moon Township, Pennsylvania (3) ROL

Hydrologic and Hydraulic Analyses; Structural Analyses; Regulatory Agency Coordination and Permitting; Spillway and Rehabilitation; Plans and Specifications for Construction; Dam Break Analysis; Dam Inspection and Construction Services





RELEVANT PROJECT NUMBER RELEVANT PROJECTS SECTION 10 YEAR COMPLETED TITLE AND LOCATION (City and State) Wymer Portals and AMD, & Davidson Highwall PROFESSIONAL SERVICES CONSTRUCTION (if applicable) Monongalia County, West Virginia 2009 PROJECT OWNER'S INFORMATION PROJECT OWNER POINT OF CONTACT NAME POINT OF CONTACT TELEPHONE NUMBER West Virginia Department of Environmental Gregg A. Smith, P.E. 304-457-3219 Protection Project Manager Division of Land Restoration, Abandoned Mine Lands and Reclamation BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

In 2009, Baker prepared design plans, specifications, and construction cost estimates for reclamation of pair of large abandoned mine complexes located in Monongalia County. The sites included numerous exposed mine entries, steep highwalls, acid mine drainage, water impoundments, and barren refuse areas. Baker developed detailed reclamations plans including site grading, surface and mine water conveyance structures, mine seals, access roads, culvert crossings, and bat gates for selected entries. The projects required surveying services for development of base mapping at a two foot contour interval. Geotechnical investigation consisting of site reconnaissance, research of mining documents, and exploratory drilling

was required to determine the underground soil, rock, groundwater, and mine characteristics.

Construction of these two projects commenced in July, 2010. Baker provided assistance to WVDEP during project bidding by providing engineering representation at pre-bid meetings for each project. During these on site meetings Baker's project manager presented the projects to prospective bidders, discussing in detail the project requirements, answering questions, and leading walking tours of the sites. Baker also provided engineering representation at preconstruction meetings, and remains available for construction monitoring services on an "as needed" basis.

	FIRMS FROM SECTION	C INVOLVED WITH THIS PROJECT
a. (1) FIRM NAME Michael Baker Jr., Inc.	(2) FIRM LOCATION (City and State) Beaver, Pennsylvania	(3) ROLE Design Plans, Specifications, and Construction Cost Estimates



	RELEVANT	PROJEC	т Ехрі	RIENC	E MATE	RIX			Si ili Sila da l	35-373 51-373-3
		Hydrologic and hydraulic analyses to develop watershed data for inclusion into analyses for Emergency Action Plans	Hydrologic and hydraulic analyses to determine adequacy of spillway systems	Performing geotechnical analyses to determine embankment stability	Performing structural analyses to determine integrify of concrete structures	Regulatory agencies with authority over dam and water resource related projects	Design of dam-related projects	Construction administration of dam- related projects	Working with local agencies	Public relations and meetings
5000	Example P	roject Name (Place "X" u	nder Project	Scope)		012331(3)			
1	Dutch Fork Dam - Dam Renovations Donegal Township, Washington County, Pennsylvania	*	×	×	*	×	×	×	×	×
2	Donegal Lake Dam - Dam Renovations Donegal Township, Westmoreland County, Pennsylvania	×	*	×	×	*	×	×	*	
3	Kyle Lake Dam - Dam Renovations Washington Township, Jefferson County, Pennsylvania	*	*	×	*	*	×	×	*	
4	Somerset Lake Dam - Dam Renovations Somerset Township, Somerset County, Pennsylvania	*	*	*	×	*	×	×	*	×
5	Canonsburg Lake Dam – Dam Renovations Peters and North Strabane Townships, Washington County, Pennsylvania	×	*	×	×	*	×	×	×	*
6	North Park Lake Dam Rehabilitation Wexford, Pennsylvania	×	×		*	*	×	*	×	-
7	Deer Lakes Park Dam Improvement Project Frazer and West Deer Township, Pennsylvania	×	×		*	×	*	×	*	
8	Latodomi Nature Center Pond Restoration Wexford, Pennsylvania	×	*		×	*	×	×	×	×
9	Monte-Mere Lake Dam Rehabilitation Montville Township, Geauga County, Ohio	*	×		*	*	*	*	×	×
10	Wymer Portals AMD & Davidson Highwall Projects Monongalia County, West Virginia			*					×	×



PURCHASING AFFIDAVIT

RFQ No. DNR #211007

STATE OF WEST VIRGINIA Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: 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 the debt owed is an amount greater than one thousand dollars in the aggregate

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.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities, "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.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this 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.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this said affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: Michael Baker Jr., Inc.			
Authorized Signature: Wllen D. Trim	ud	_Date:	August 23, 2010
State of Pennsylvania			
County of Beaver , To-wit:			
Taken, subscribed, and sworn to before me this 23	_ day of <u>Aug</u>	4 s7	, 20 <u>10</u>
My Commission expires <u>August</u>	, 20 <u>, 1</u>		
AFFIX SEAL HERE	NOTARY PUBLIC	Linda	J. Montagna
COMMONWEALTH OF PENNSYLVANIA			7

Notarial Seal Linda L. Montagna, Notary Public Brighton Twp., Beaver County My Commission Expires Aug. 1, 2012

Member, Pennsylvania Association of Notaries