

# CIVIL WORKS & WATER RESOURCES

Improving our nation's infrastructure

**Michael Baker**  
INTERNATIONAL



Lake Loramie Dam Rehabilitation | Shelby County, Ohio

**TOP 7** Firm in Dams and Reservoirs,  
ENR Rankings

## WHO WE ARE

Michael Baker International, a leading provider of engineering and consulting services for dam safety, has proudly partnered with the U.S. Army Corps of Engineers (USACE), state and municipal agencies for over 80 years to strengthen water resources infrastructure across the U.S. and its territories.

We are a full service engineering firm with expertise in planning, assessments, design, construction management, and inspections for climate-resilient infrastructure. We Make a Difference by delivering innovative cost-effective solutions with safety and sustainability at the forefront.

## FEATURED AWARDS

### New Jersey Climate Change Resilience Strategy

Notable Document Award Winner for Environmental Protection  
*National Conference of State Legislatures*

### Lake Loramie Dam Rehabilitation

Water Resources Outstanding Achievement Award  
*American Council of Engineering Companies*

### U.S. Army Installation Management Command Climate Resilience Plans

Honor Award for Outstanding Environmental Planning  
*American Planning Association Federal Planning Division Outstanding Planning Awards*

### Buckeye Lake Dam Improvements

National Dam Project of the Year  
*Association of State Dam Safety Officials of Ohio and Pennsylvania Awards*

*We Make a Difference*

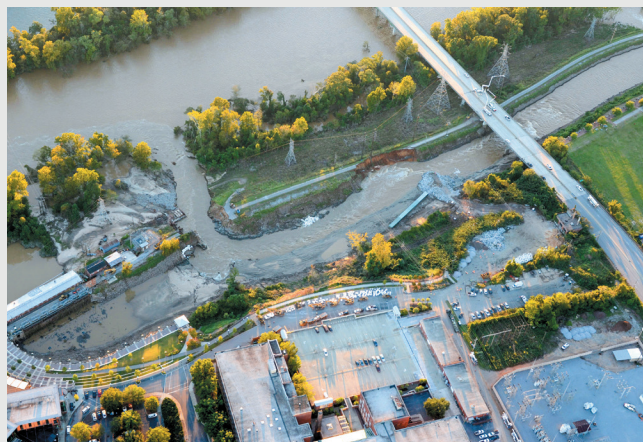
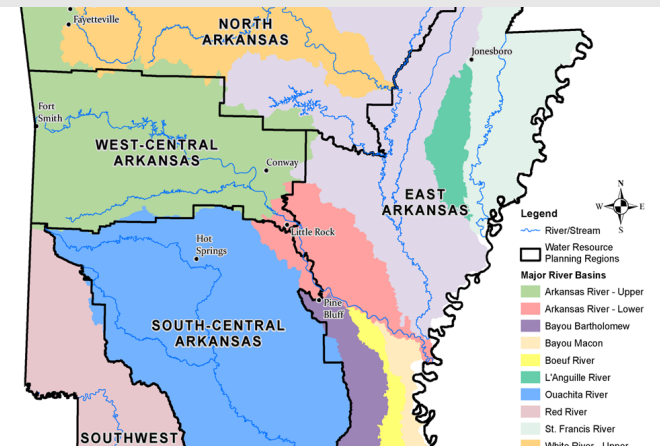


### Westside Creeks Ecosystem Restoration (USACE)

Michael Baker developed construction documents and construction phasing plans to restore 14 miles of the San Pedro, Apache, Alazan and Martinez creeks – collectively referred to as the Westside Creeks in San Antonio, Texas. The project restores existing channels to sustainable riverine ecosystems and offers habitat for aquatic- and riparian-dependent bird species. The team provided landscape architecture services, natural channel designs, and hydraulic modeling to confirm that the improvements did not increase flood risk.

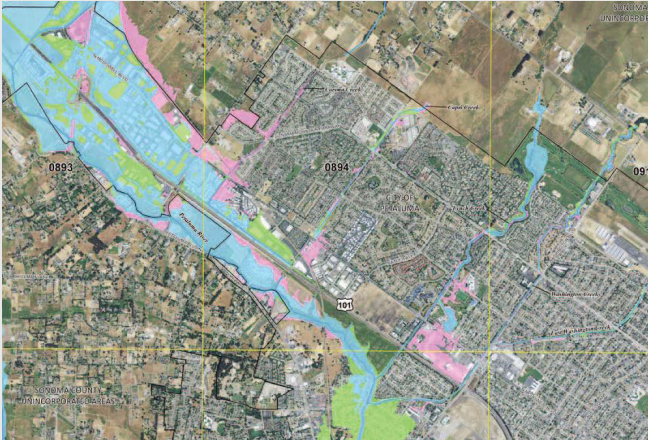
### Master Planning Support for Arkansas Natural Resources Division (USACE)

Michael Baker is developing a Programmatic Work Plan for the update of the Arkansas Comprehensive Water Plan (ACWP) and Workplan for a Statewide Flood Plan. The Arkansas Natural Resources Division (ANRD) has initiated a major update to the ACWP, which will include the addition of the first state-wide flood plan. Michael Baker will identify gaps in the 2014 Arkansas Water Plan and delegate detailed tasks to appropriate workforces and stakeholders.



### Riverfront Canal Repair

When the historic flooding of 2015 caused a breach in the Columbia Canal embankment and threatened the water supply for hundreds of thousands of Columbia residents, the city undertook emergency repair measures to shore up their drinking water infrastructure. Since then, our team has been working with FEMA and the city to fully repair the canal facilities, including the hydroelectric generating station. Our work involves canal embankment reconstruction, environmental permitting, spillway repairs, and reconstruction of the pedestrian facilities associated with Canal Riverfront Park.



## FEMA Levee Support

Michael Baker served as the National Service Provider for the FEMA Flood Map Modernization program, providing technical and administrative services to support Digital Flood Insurance Rate Maps and Flood Insurance Study reports. Michael Baker also managed the two-year assessment of FEMA's levee policy. The assessment was performed by the Levee Policy Task Committee comprised of federal and state agencies responsible for the design, construction, inspection and maintenance of levees, with final recommendations for revising the policy.

## Prado Dam Outlet Works Project (USACE)

Michael Baker prepared final plans, specifications and estimate for this \$70 million project to raise the top of the Prado Dam by approximately 28 feet as part of the Santa Ana River Mainstem Flood Control Project. The project included design and construction of a new outlet works capable of releasing water at a rate of 30,000 cubic feet per second. The facility required a sophisticated seismic structural analysis, in accordance with USACE design criteria, and resulted in unique construction and design features.



## Virginia Beach Drainage Improvements and Flood Mitigation Program

Michael Baker addressed drainage issues in flood-prone areas of The Lakes, Princess Anne Plaza and Windsor Woods. Following extensive analysis and collaboration with stakeholders, recommendations encompassed diverse infrastructure upgrades, from stormwater pump stations and tide gates to flood barriers and storm drains, including repurposing a city-owned golf course into a multifunctional stormwater park. Services included environmental and geotechnical evaluations, preliminary engineering, public outreach, permitting and ongoing technical support throughout the program.

# CAPABILITIES

Climate Change & Vulnerability Assessments

Coastal Engineering

Construction Management Services (CMS)

Ecosystem Restoration

Engineering with Nature

Flood Risk Management

Hydrologic & Hydraulic Modeling

Plan Formulation

Planning Assistance to States

Vulnerability Assessments

Water Resilience & Conservation

Visit [mbakerintl.com](http://mbakerintl.com) for more information about our capabilities and iconic projects.

# CONTACT

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Structural Design of Olmstead Locks & Dam | USACE



Hydrographic & Derrick Positioning Surveys of Braddock Lock and Dam - Pool 3 | USACE

## ADDITIONAL SERVICES PROVIDED

### Construction Management & Inspection

- Construction Administration & Inspection
- Dispute Resolution

### Dam Break Modeling & Inundation Mapping

- Dam Break Scenarios Using Both Steady & Unsteady-state Hydraulic Models
- Automated Floodplain Delineation Tools

### Dam Inspection & Assessment

- Regular Inspection & Reporting
- Special Inspections
- FEMA Inspection & Certification
- Operation, Maintenance & Inspection Manuals

### Dam Removal & Stream Restoration

- Breach Design
- Natural Channel Design & Biological Stabilization
- Water Control & Sediment Controls

### Emergency Action Plan Development

- Development, Maintenance & Implementation of Emergency Action Plans
- Assisted in Personnel Training

### Emergency Response

- Assessment & Repairs
- Monitoring & Testing

### Geotechnical Investigation & Analysis

- Soils & Geologic & Hydrologic Settings Reports
- Aerial Photography Review & Analysis
- Detailed Geologic or Geotechnical Field Reconnaissance
- Settlement Analysis & Control
- Slope-stability Analysis
- Seepage Analysis
- Seepage Cutoff Analysis

### Hydrologic & Hydraulic Analysis

- GIS-Based Hydrologic & Hydraulic Tools
- Steady-state Modeling
- Unsteady-state Modeling

### Permitting & Environmental

- Wetland Investigation & Delineation
- Dam Safety Permitting
- Environmental Permitting
- Cultural Resources

### Rehabilitation Design

- Spillway Modification or Replacement
- Overtopping Protection
- Control Tower Rehabilitation
- Seepage Control
- Stability Improvements
- Post-Tensioned Anchors
- Alternative Methods of Stabilization

### Risk Assessments & Prioritization

- Condition Assessments
- Risk Evaluation & Management
- Programmatic Planning
- Potential Failure Mode Analysis

### Structural Analysis & Design

- Structural Design for Spillways, Retaining Walls & Other Hydraulic Structures
- Evaluation of Concrete Structures for Stability Issues, Such as Overtopping & Sliding

### Additional Services

- Nature-Based Solutions
- Watershed Planning
- Ecosystem Restoration
- Coastal Resiliency
- Flood Risk Management