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## Header 1

List View

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

**Procurement Folder:** 1834025
**Procurement Type:** Central Contract - Fixed Amt
**Vendor ID:** 000000160928
**Legal Name:** CIVIL & ENVIRONMENTAL CONSULTANTS INC
**Alias/DBA:**
**Total Bid:** $0.00
**Response Date:** 12/03/2025
**Response Time:** 11:28
**Responded By User ID:** kevinhanks
**First Name:** Kevin
**Last Name:** Hanks
**Email:** khanks@cecinc.com
**Phone:** 2676885593

**SO Doc Code:** CEOI
**SO Dept:** 0310
**SO Doc ID:** DNR2600000003
**Published Date:** 11/10/25
**Close Date:** 12/3/25
**Close Time:** 13:30
**Status:** Closed
**Solicitation Description:** A&E - Meadow River WMA Wetlands Project
**Total of Header Attachments:** 1
**Total of All Attachments:** 1

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

# State of West Virginia
# Solicitation Response

| | |
|---|---|
| **Proc Folder:** | 1834025 |
| **Solicitation Description:** | A&E - Meadow River WMA Wetlands Project |
| **Proc Type:** | Central Contract - Fixed Amt |

| Solicitation Closes | Solicitation Response | Version |
|---|---|---|
| 2025-12-03 13:30 | SR 0310 ESR12032500000003373 | 1 |

**VENDOR**

000000160928
CIVIL & ENVIRONMENTAL CONSULTANTS INC

**Solicitation Number:** CEOI 0310 DNR2600000003

**Total Bid:** 0 **Response Date:** 2025-12-03 **Response Time:** 11:28:26

**Comments:**

**FOR INFORMATION CONTACT THE BUYER**
Joseph (Josh) E Hager III
(304) 558-2306
joseph.e.hageriii@wv.gov

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

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

| Line | Comm Ln Desc | Qty | Unit Issue | Unit Price | Ln Total Or Contract Amount |
|---|---|---|---|---|---|
| 1 | Civil engineering | | | | 0.00 |

| Comm Code | Manufacturer | Specification | Model # |
|---|---|---|---|
| 81101500 | | | |

**Commodity Line Comments:**

**Extended Description:**

Design and Contract Administration of a new wetlands area at Meadow River Wildlife Management Area.

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

# State of West Virginia
# Centralized Expression of Interest
# Architect/Engr

| | | | |
|---|---|---|---|
| **Proc Folder:** 1834025 | | | **Reason for Modification:** |
| **Doc Description:** A&E - Meadow River WMA Wetlands Project | | | |
| **Proc Type:** Central Contract - Fixed Amt | | | |
| **Date Issued** | **Solicitation Closes** | **Solicitation No** | **Version** |
| 2025-11-10 | 2025-12-03 13:30 | CEOI 0310 DNR2600000003 | 1 |

**BID RECEIVING LOCATION**

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

**VENDOR**

**Vendor Customer Code:** 000000160928

**Vendor Name :** Civil & Environmental Consultants, Inc.

**Address :** 3574 Teays Valley Road

**Street :**

**City :** Hurricane

**State :** WV **Country :** USA **Zip :** 25526

**Principal Contact :** Jim Christie, PLA

**Vendor Contact Phone:** 304-933-3119 **Extension:**

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**Vendor Signature X** Jim Christie **FEIN#** 25--99565 **DATE** 12/3/2025

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

Civil & Environmental Consultants, Inc.

WEST VIRGINIA DIVISION OF NATURAL RESOURCES

# MEADOW RIVER WMA WETLANDS PROJECT (CEOI 0310 DNR2600000003)

Project 357-548

December 3, 2025

December 3, 2025

West Virginia Department of Natural Resources
c/o West Virginia Purchasing Division
2019 Washington Street East
Charleston, WV 25305

Dear Members of the Selection Committee:

Subject: Expression of Interest Submission: Meadow River WMA Wetlands Project
(CEOI 0310 DNR2600000003)
CEC Project 357-548

Civil & Environmental Consultants, Inc. (CEC) is pleased to submit this Expression of Interest (EOI) for the Meadow River Wildlife Management Area Wetlands Project. We appreciate the opportunity to support the Division of Natural Resources in planning, designing, and delivering a natural wetland system that aligns with the goals and expectations outlined in the RFQ.

CEC understands that the project centers on evaluating site feasibility, developing cost-effective wetland restoration concepts, securing necessary regulatory approvals, and providing construction documents and construction administration services. These needs align with the RFQ's three stated objectives:

(1) Coordinated feasibility and site evaluation,
(2) Complete design and permitting in accordance with agency needs and applicable laws, and
(3) Contract documents and construction administration services that support proper project implementation

Our team, led by Project Manager Bradley Petru, with Principal leadership from Jim Christie, and supported by specialists in hydrology, engineering, ecological design, permitting, and construction oversight, has extensive experience delivering wetland, floodplain, and habitat restoration projects for state agencies, conservation organizations, and public land managers. The team's multidisciplinary structure and regional availability position us to meet project needs while maintaining clear communication and steady progress through each phase of work.
.
CEC's approach emphasizes collaborative planning with Meadow River WMA staff, thorough field and desktop assessments, practical, phased design development, and coordinated communication among regulatory agencies. This process promotes design solutions that are technically sound, ecologically beneficial, and feasible to implement within the project's budget and schedule. Our staff regularly manages public procurement processes and will provide the documentation, support, and oversight needed for contractor selection and construction.

We welcome the opportunity to discuss our qualifications and approach during the interview phase. CEC looks forward to partnering with the Division of Natural Resources to advance the Meadow River WMA wetland restoration project.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Bradley J. Petru, PWS
Principal

Jim Christie, PLA
Principal

# PROFESSIONAL CONSULTING SERVICES FOR WVDNR MEADOW RIVER WMA WETLANDS PROJECT

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# 1.0 Firm Overview and Technical Competency

In 1989, four engineers and scientists came together with a singular vision: to be a people-first company, one that promotes a culture where clients and employees enjoy working together, and that is responsive to client needs with integrated services and high-quality work for projects both complex and routine.

More than 36 years later, Civil & Environmental Consultants, Inc. (CEC) has 1,600+ team members in offices nationwide. Headquartered in Pittsburgh, Pennsylvania, we are consistently ranked on Engineering News-Record's annual lists of the Top Design Firms and Top Environmental Firms in the nation.

**CEC's West Virginia (Bridgeport, Charleston, Martinsburg)** offices are comprised of senior leaders, master planners, engineers, project managers and support staff all with significant private and public infrastructure planning, design and engineering experience. Our offices are adequately staffed with a variety of professionals to allow appropriate staff is assigned to any task.

CEC West Virginia enjoys a positive relationship with local, regional and state regulatory officials. These relationships are critical to navigating the permitting process through the increasingly difficult regulatory environment. CEC understands the length of time required for permitting tasks and can assist the client in developing accurate project schedules. This knowledge of local construction techniques and a thorough understanding of the design and operation/maintenance of public infrastructure provide a technical advantage to CEC.

CEC's team provides a balance of public and private sector experience that allows us to offer an exceptional prospective to our consulting services. Our team has proven experience in both private and public sector projects, meeting intensive schedules for projects and locally funded projects while maintaining quality work. We understand the balance and collaboration required between private site development projects and the public development process which will be critical in the success of this project.

**CEC West Virginia Practices**

**6** *Trail Designers*

**46** *Civil Engineers*

**8** *Ecological*

**22** *Surveyors*

**15** *Environmental*

*CEC Charleston*

Civil & Environmental Consultants, Inc.

# Wetlands and Waters Delineation

**CEC uses a sequential approach to provide wetlands and waters (streams, ponds, etc.) identifications, delineations and permitting, and also develops designs for approved and successful mitigation projects.**

## PROVEN WETLANDS APPROACH

Wetlands regulations significantly impact the overall feasibility, economics, and efficiency of new land development projects. CEC has extensive experience in working with regulatory agencies to address and solve wetland issues for land development, producing positive, timely results.

## WETLANDS IDENTIFICATION AND DELINEATION

CEC recommends that wetlands be identified during site consideration and planning due to the negative impact wetlands can have upon site feasibility. CEC's delineation services include a review of background information (soil surveys, aerial photography, National Wetlands Inventory Maps, flood insurance maps) and initial site reconnaissance to determine the presence of wetlands.

Delineations confirm the presence and determine the boundaries of potentially jurisdictional wetlands and other waters. CEC selects the appropriate delineation methodology based on an initial review of site conditions and proceeds to determine the wetland/non-wetland boundary in accordance with regulatory requirements. CEC prepares a formal report and supporting documentation presenting data forms, site photographs, methodology and other information required for state and/or federal permitting, and typically coordinates and leads the on-site jurisdictional determination (JD) meeting with the U.S. Army Corps of Engineers and appropriate state agencies to verify the limits of the delineation and discuss permitting strategies.

## WETLANDS PERMITTING

Encroachments upon jurisdictional wetlands and other waters require state and/or federal permit applications. CEC can recommend a permit application strategy based on the results of the wetlands delineation, the land developer's objectives, the regulatory requirements, and agency information obtained during the JD meeting. CEC prepares permit applications along with the required supporting documentation, including environmental assessments, wetland value and function assessment, and alternatives analysis. CEC can also prepare a cumulative impact assessment, which compares specific project impacts to a larger-scale assessment area. In addition, CEC works with the developer and regulatory agencies to develop, design, and prepare construction documents, as well as monitor the performance of wetlands mitigation plans.

## RELATED WETLAND SERVICES

- Wetland and Stream Functional Assessment
- Mitigation Design, Construction Oversight, and Long-Term Success Monitoring
- Design of Wetland Treatment Systems
- Threatened and Endangered Species Surveys and Habitat Assessments
- Fish and Benthic Macroinvertebrate Surveys
- Invasive Plant Inventory
- Technical Assistance to Mitigation Bankers

Civil & Environmental Consultants, Inc.

# Avian Surveys and Management

**CEC offers a comprehensive suite of services to assist with avian surveys and management, as well as with Migratory Bird Treaty Act compliance. Our experience and expertise allow us to provide seasoned advice to our clients, enhancing their ability to effectively and efficiently complete their projects.**

CEC's wildlife biologists and ornithologists have the experience, expertise, and qualifications to provide comprehensive regulatory and technical support nationwide regarding avian issues. CEC brings specialized expertise in navigating the potential issues associated with the interaction between avian species and industrial facilities. From passive modification techniques to monitoring and adaptive management programs, CEC has the knowledge to support clients with avian-friendly design standards, building guidelines, and operational protocols that meet industry-specific requirements.

## AVIAN SURVEYS

CEC biologists are proficient in a wide variety of avian survey methodologies, allowing the selection of site- and species-specific survey protocols, including diurnal and nocturnal survey protocols. Surveys can provide valuable information on biodiversity, justifying the ecological value of an area, or determining specific population information for threatened and endangered species. Avian surveys are important to our clients—from airports managing potentially hazardous wildlife, to wind farms and power transmission companies minimizing impacts to eagles, to industrial facilities protecting migratory bird species.

## MIGRATORY BIRD TREATY ACT COMPLIANCE

The Migratory Bird Treaty Act (MBTA), enacted in 1918, and amended through international treaties several times, prohibits take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the U.S. Fish and Wildlife Service. The complete list of protected species is found in the Code of Federal Regulations, and represents those migratory bird species that are native to the U.S. or its territories.

CEC ornithologists have extensive experience navigating the regulatory issues associated with MBTA compliance, including determining the presence or absence of potentially rare species in a project area, the assessment of habitat values, the quantification of population abundance and distribution, and the ability to negotiate and secure any required permits (including the development of associated impact mitigation). Through project-specific experience with these issues, CEC has the specialized in-depth knowledge to guide our clients through this process.

## PERSONNEL EXPERIENCE

Our experts have worked on projects ranging from large utility-wide habitat conservation plans (HCPs) to small individual projects. CEC team members have built an excellent rapport with local, state, and federal regulators, including the U.S. Fish and Wildlife Service, by leading state and regional efforts to develop species-specific recovery plans and conservation agreements. Additionally, our professionals have provided technical expertise and assistance to help some of the largest utilities in the U.S. develop and implement Avian Protection Plans (APPs). While providing those services, our staff were able to stay informed on the latest issues facing the electric utility industry and the Avian Power Line Interaction Committee (APLIC).

## TECHNOLOGY

CEC's innovative data management professionals have developed a tablet application to enhance field data collection, allowing personnel to directly input data in real time while improving quality control and data analysis. Reports are delivered to regulators and clients faster, speeding up the regulatory process.

Civil & Environmental Consultants, Inc.

# Ecosystem Restoration Services

**CEC's team of aquatic ecologists, geomorphologists, wetland scientists, botanists, agronomists, and engineers recognizes the complex nature of ecosystems and works together to create functional, self-sustaining stream and wetland systems.**

## PLANNING AND DESIGN

CEC uses natural channel design to restore valuable hydrologic, hydraulic, geomorphic, and ecologic functions to streams. Wetlands can be incorporated into designs by retaining ox-bow and back channels, designing overbank floodways to connect and enhance floodplain wetlands, and creating depressional wetlands and vernal pools.

## CONSTRUCTION AND MONITORING

CEC develops realistic, ecologically relevant and measurable performance standards, as well as monitoring programs to determine compliance with those standards.

Functional assessments and post-restoration monitoring document the ecological "lift" to the aquatic community and improvements in aquatic life use. CEC also provides turnkey design-build and construction management services for restoring ecosystems.

## STREAM AND WETLAND RESTORATION DESIGN

- Site Selection and Evaluation
- Fluvial Geomorphic Assessments
- 3D Natural Channel Design
- Wetland Water Budgets
- Riparian and Wetland Planting Specifications
- Erosion Prevention and Sediment Control Specifications

## LANDSCAPE RESTORATION

- Geomorphic Restoration of Mined Land
- Agronomic Evaluations
- Revegetation of Disturbed Landscapes
- Invasive Plant Management

## CONSTRUCTION-RELATED SERVICES

- Design-Build
- Construction Management and Quality Assurance
- Construction Specifications and Bid Packages
- Fish and Wildlife Protection and Relocation
- As-Built Drawings and Certification Reports

## REGULATORY PERMITTING

## BIOLOGICAL MONITORING (FISH, AQUATIC, MACROINVERTEBRATES, VEGETATION)

## RARE AND ENDANGERED SPECIES SURVEYS (PLANTS, BATS, BIRDS, FISH)

Civil & Environmental Consultants, Inc.

# Landscape Architecture & Planning

**CEC provides a diverse range of landscape architecture design services for site and land development, outdoor recreation, master development planning, trail planning, feasibility studies, stormwater management, landscape design, green infrastructure and irrigation.**

CEC provides comprehensive landscape architecture services to architects, developers, public agencies, and private clients. We are known for applying sustainable design practices and supporting projects pursuing LEED® certification.

## OUTDOOR RECREATION & TOURISM PLANNING

CEC specializes in planning and designing outdoor recreation amenities that promote healthy lifestyles and support tourism and economic development. Services include:

- Mountain bike, pedestrian, equestrian, and ATV trail design
- Park and trail master planning
- Resort and campground site planning
- ADA-accessible amenities and nature-based recreation
- Wayfinding and interpretive signage

## SITE PLANNING & SUSTAINABLE DEVELOPMENT

Our site and land development services cover commercial, residential, institutional, and recreation-based projects. We offer:

- Site feasibility studies and master plans
- Utility, roadway, and circulation planning
- Zoning and regulatory compliance
- Sustainable stormwater solutions (e.g., bioswales, rain gardens, naturalized ponds)
- Integration of natural features and environmental resources

## LANDSCAPE, IRRIGATION & WATER FEATURE DESIGN

CEC creates planting and irrigation plans that balance aesthetics, local ordinance requirements, and construction budgets. We design:

- Native and ornamental landscape plans
- Groundwater and surface water irrigation systems
- Water amenities such as fountains and rain gardens

## VISUALIZATION & RENDERING SERVICES

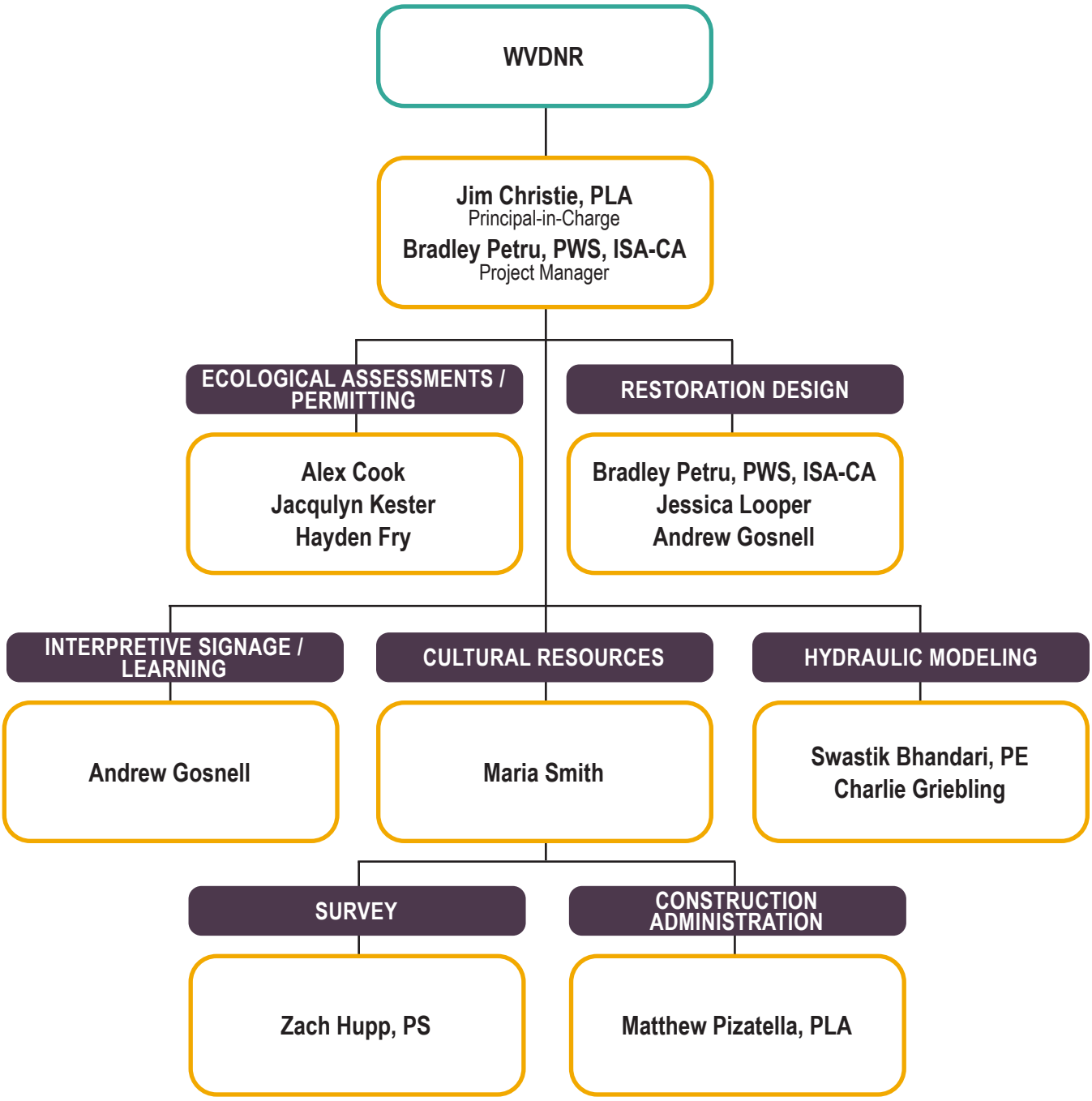
To support community engagement and project approval, we provide:

- Photo-realistic renderings and 3D visualizations
- Hand-drawn and computer-generated conceptual graphics
- Presentation boards for public meetings and funding applications

# 2.0 Staff Qualifications and Experience

CEC has assembled a multi-disciplinary team of technical experts for this Project. The leadership dedicated to the Meadow River WMA includes project management and restoration design by Bradley Petru, PWS, ISA-CA, engineering and public education engagement by Jessica Looper, PE, and Andrew Gosnell, ASLA, Hydraulics and Hydrology (H&H) modeling and floodplain permit coordination by Swastick Bhandari, PE, and Charlie Griebling, PE, and the project will receive principal leadership from Jim Christie, PLA.

All have substantial stream and wetland restoration experience across the eastern United States, have worked together, and have exposure to large, multi-phased agency managed restoration projects. The organization chart and staff skill set matrix are provided below.



| Name | Role | Years of Experience | Education | Registration |
|---|---|---|---|---|
| Jim Christie | Principal | 27 | B.S., Landscape Architecture, West Virginia University | |
| Bradley Petru | Project Manager | 25 | M.S., Environmental Science & Policy, George Mason University<br>B.S., Field Ecology & Physical Geography, University of Wisconsin-Whitewater | Professional Wetland Scientist (PWS)<br>International Society of Arboriculture (ISA-CA) |
| Matthew Pizatella | Construction Administration | 14 | B.S., Landscape Architecture, West Virginia University | |
| Alex Cook | Ecological Permitting | 18 | B.S., Biology, West Virginia State University | |
| Jacqulyn Kester | Ecological Assessment | 19 | B.S., Environmental Sciences, West Virginia University | |
| Hayden Fry | Ecological Permitting | 10 | B.S., Ecology, Bowling Green State University | |
| Jessica Looper | Restoration Design | 13 | M.S., Civil Engineering, Auburn University<br>B.S., Civil Engineering, Auburn University | |
| Andrew Gosnell | Interpretive Signage/Learning | 5 | B.S., Landscape Architecture, West Virginia University | |
| Maria Smith | Cultural Resources | 7 | Ph.D., Anthropology, Syracuse University<br>M.A., Anthropology, Syracuse University<br>B.A., Anthropology, Western Michigan University | Registered Professional Archaeologist, Register of Professional Archaeologists |
| Charlie Griebling | Hydraulic Modeling | 17 | Certificate, GIS, University of Cincinnati<br>B.S., Civil Engineering, The Ohio State University | |
| Swastik Bhandari | Hydraulic Modeling | 10 | M.S., Civil Engineering, Southern Illinois University<br>B.S., Civil Engineering, Tribhuvan University | Professional Engineer (WV) |
| Zach Hupp | Survey | 25 | A.S., Land Surveying, Glenville State College | Professional Surveyor (WV) |

As reflected in the skill set matrix table, the leadership, education and overall experience of our team demonstrate competency and successful project implementation. The staff experience and shared project examples provided in the Past Performance section include servicing government organizations, private mitigation clients, municipalities, and nonprofit organizations. Frequently, these efforts include coordinating communication across multiple agencies, funding agents, and public outreach forums to bring stakeholders together. Their current portfolio of work includes several projects funded by the large federal and State grant programs. Bradley and Jim routinely work with state agencies to develop restoration and public engagement opportunities and are familiar with developing phased project milestones to allow for project expansion, as funding becomes available.

Company-wide, we have worked with local and national non-profit organizations, municipal governments and authorities, industry, and regulatory agencies to complete more than 100 ecosystem restoration projects that collectively have restored and conserved more than 230 miles of rivers and streams and over 1,800 acres of wetlands.

CEC's Restoration Team staffed for this opportunity includes a multi-disciplinary group of professional engineers (civil, environmental), professional land surveyors, geologists, site development personnel, ecologists, landscape architects, CAD designers, and field technicians to support the Meadow River WMA, as necessary. The CEC staff will function as an extension of the Meadow River WMA and complement the resources available within your organization. We recognize that staff involvement will fluctuate throughout the lifespan of the project and our key staff identified in the table above have 10% to 25% availability in their average work week to support the project efforts when their respective services are required.

CEC regularly reviews workload by office and by practice through a series of regularly scheduled internal reviews. We evaluate new and upcoming proposals, reports, review workload, schedule manpower and anticipate schedule changes weekly at our local offices. CEC regularly monitors our workload and backlog against staff availability and can add personnel, as necessary, from our other offices or from our regional staff of technical professionals to meet the Meadow River WMA needs and project requirements.

### Principal in Charge – Jim Christie, PLA

Jim is a Principal and the lead Landscape Architect at CEC. A West Virginia native, Jim has extensive experience across the United States and internationally but his heart and his primary focus remains in his home state. His work centers on advancing the outdoor industry in West Virginia, creating spaces that celebrate the state's natural beauty while driving tourism and economic growth.

Jim is deeply passionate about designing recreational spaces that embody his philosophy of "Recreation as the Destination." His expertise lies in master planning projects that transform communities into vibrant destinations while preserving their cultural and environmental integrity. After beginning his career in Colorado and learning from world-class master planners, Jim returned to Appalachia to build the largest Landscape Architecture team in West Virginia, specializing in outdoor tourism-driven initiatives.

Beyond his design leadership, Jim spent the past eight years partnering with the West Virginia Division of Natural Resources (WVDNR) to create special places that connect people with nature. Leading CEC's team, he managed conservation and accessibility projects across the state. A standout achievement was the Tomlinson Run State Park stream mitigation project, which introduced an ADA compliant Fisherman's trail and fishing platforms, opening new opportunities for visitors of all abilities to experience the outdoors.

Jim's love for West Virginia and its natural resources extends beyond his professional work. He served as State Chairman of the West Virginia Council of Trout Unlimited, advocating for cold-water fisheries conservation and public engagement. These roles reflect his lifelong commitment to preserving the state's outdoor heritage while creating inclusive spaces for recreation.

### Project Manager/Restoration Lead - Bradley J. Petru, PWS, ISA-CA

Bradley is a Professional Wetland Scientist and Certified Arborist with over 25 years of experience in ecosystem restoration design, planning, and construction and will serve as the Project Manager and Lead Restoration Ecologist in charge of this restoration program with the WMA. He excels at leading and accomplishing complex, large-scale, multi-phased projects that are constrained by budget, regulatory, and unique field implementation circumstances. The majority of Bradley's experience has focused on the reclamation of agricultural and industrially degraded landscapes back into productive ecosystems. He provides leadership and mentorship in all aspects of stream and wetland restoration projects, including site search, feasibility studies, existing condition assessments (including Ohio Rapid Assessment Method (ORAM), Qualitative Habitat Evaluation Index (QHEI), Bank Erosion Habitat Index (BEHI), Stream Quantification Tool (SQT) and other geomorphic, ecological and functional assessments) as they relate to restoration planning, complex aquatic resource restoration design, floodplain and Clean Water Act permit coordination, complex-interagency coordination and approvals, and project and construction management services. Bradley routinely works on aquatic resource restoration projects with Jim.

# Bradley J. Petru
## Project Manager

### 24 YEARS OF EXPERIENCE

### EDUCATION

B.S., Field Ecology & Physical Geography, University of Wisconsin-Whitewater, 2000

M.S., Environmental Science & Policy, George Mason University, 2012

### CERTIFICATIONS

40-Hour OSHA HAZWOPER, Occupational Safety & Health Administration

Professional Wetland Scientist, Society of Wetlands Scientists

Certified Arborist, International Society of Arboriculture

### PROJECT EXPERIENCE

**Dillon Lake Treatment Train Wetland Restoration Project, Rural Action, Nashport, OH**
**Role**: Project Manager, Restoration Design Lead, Construction Quality Assurance Oversight
H2Ohio program sponsored by Rural Action, and stakeholders included Ohio Department of Natural Resources (ODNR) Div. of Parks and Watercraft, USACE (Regulatory/Real Estate/Hydraulics-Engineering/Cultural-ARPA/Mitigation), Ohio Environmental Protection Agency (Ohio EPA), Ohio Department of Transportation (ODOT) mitigation program, Ohio Valley Archaeology, Inc (OVAI), local floodplain administrators, Environmental Remediation Contractor (ERC), and Williams Forestry and Associates to remove approximately 100 acres of Licking River floodplain from agricultural production. Restoration included 15 acres of depressional wetland treatment train habitat, 85 acres of upland reforestation/revegetation, ODOT mitigation modifications, flowage easement adjustments, and cultural resources preservation.

**Sycamore State Park Stream and Wetland ILF Design-Build Project, The Nature Conservancy, Trotwood,Ohio**
**Role**: Project Manager, Restoration Design Lead, Construction Quality Assurance Oversight
Approximate $2.6M design-build contract that worked with TNC to restore, enhance, and re-establish approximately 56 acres of wetlands, 95 acres of uplands, and 10,000 linear feet of headwater stream channel in Montgomery County, Ohio.

**Upper Scioto Mitigation Bank, Sandy Creek Partners, Union County, Ohio**
**Role**: Project Manager, Restoration Design Lead, Construction Quality Assurance Oversight
Privately funded stream and wetland mitigation bank on approximately 205 acres of farm land northwest of Marysville, Ohio. Restored, re-established, and enhanced approximately 9,500 linear feet headwater stream channel (first and second order), and approximately 90 acres of weltands and 110 acres of uplands. Included the revegetation of approximately 100k wetland and upland bare root tree tubelings with native seed.

**Little Miami Mitigation Bank, Sandy Creek Partners, Clinton County, Ohio**
**Role**: Project Manager, Restoration Design Lead, Construction Quality Assurance Oversight
Privately funded wetland and stream mitigation bank. Removed agricultural production and restored, re-established, and enhanced approximately 10,000 linear feet of headwater stream channels (first and second order), 88 acres of headwater wetlands, and 115 acres of uplands. Revegetated with approximately 100k bare-root saplings of wetland and upland trees with native seed.

**Rush Creek Non-Point Source Implementation Strategy (NPS-IS 9-Element Watershed Action Plan), Perry County Soil and Water Conservation District, Perry County, OH**
**Role**: Project Manager, Watershed Action Plan Development Support
Developed a Non-Point Source Implementation Strategy (NPS-IS 9-Element Watershed Action Plan) for Perry County Soil & Water Conservation District. Brad managed the project budget and planning, integration of stakeholders, academia, private funding, conceptual restoration designs, and supported the development of the watershed action plan to support 319-Impaired Waters grant applications. Identifies critical areas and points for restoration and infrastructure improvement to address those concerns.

**Rock Hedge Mitigation Bank Phase 2 and 3 Design, Rock Hedge Mitigation Bank, LLC, Loudoun County, Virginia***
**Role**: Lead Design and Regulatory Coordination

# Bradley J. Petru
## Project Manager

Provided stream and wetland mitigation feasibility and design services for the second and third phase of the Rock Hedge Mitigation Bank. Conducted existing conditions analysis of stream and wetland resources onsite including stream survey, geomorphological assessments of stream channel, and landscape assessment of soil properties. Restored and created wetlands and unnamed tributaries to Beaverdam Run. Used regional curve data in Rivermorph to generate stream design standards and facilitated CAD drafting of stream plan view layout. Created water budgets to predict wetland hydrology of proposed restoration areas. Acquired NWP 27 PCN approval. Oversaw the partial construction and field implementation.

**Bonnie Park Dam Removal and Floodplain Restoration Project, Cleveland Metroparks, Strongsville, OH***
**Role**: Lead Design and Regulatory Coordination
Coordinated the field reconnaissance, data collection, regulatory approval and main design of the dam removal, approximately 1,400 linear feet of riffle habitat restoration, floodplain wetland habitat restoration, upland buffer restoration, bankfull bench regrading, removal of gabion walls, replacement of undersized culverts, removal of impervious surfaces, and steep bank grading along the East Bank of the Rocky River.

**Bedford Heights Bus Terminal Stream Restoration, Tinkers Creek Watershed Partners, Bedford Heights, OH***
**Role**: Design and Regulatory Support
Coordinated the field reconnaissance, data collection, regulatory approval and supported the design of approximately 700 linear feet of stream channel realignment/restoration. Removed gabion baskets and impervious parking area to provide floodplain wetland bench and realigned stream channel to alleviate flooding of a school bus facility.

**Swift Island Wetland and Stream Mitigation for the Cobbs Creek Reservoir, Mitigation Services, LLC, Buckingham County, VA***
**Role**: Lead Design and Regulatory Coordination Support
Conducted the feasibility investigation to construct a large-scale, project specific wetland and stream mitigation project on the floodplain of the upper James River near Wingina, VA to compensate for wetland and stream impacts associated with a new reservoir outside Richmond, VA. Directed the full design and partial construction oversight of over 55 acres of mixed wetland mitigation habitat (mostly forested) which addressed project specific wetland impacts.

**Fetters Run Restoration, City of Lancaster , Lancaster, OH***
**Role**: Lead Design and Regulatory Coordination
Coordinated and participated in the field reconnaissance and design of an approximate 300 linear foot reach of Fetters Run that had enveloped a stormwater sewer manhole. Project re-established a floodplain bench and realigned Fetters Run with cross-vane structures to protect the manhole.

**Blanchard River Floodplain Restoration, The Nature Conservancy, Findlay, Ohio***
**Role**: Project Manager and Design Support
Coordinated, supported design and managed a restoration plan that included floodplain grading and replanting of approximately 8 acres of riparian habitat along the Blanchard River.

**Fulks Run Wetland Mitigation, The Nature Conservancy, Rockingham County, VA***
**Role**: Lead Design and Regulatory Coordination
Conducted the feasibility investigation to build 10 acres of palustrine wetlands with additional buffer (17 acres total) for The Nature Conservancy to be allocated to the Virginia Aquatic Trust Fund in-lieu fee program. Directed the full design, project coordination, and construction oversight.

**Loudoun Valley Estates Treatment Wetland Design, Charles P. Johnson & Associates and Loudoun County Department of Building and Development, Loudoun County, Virginia***
**Role**: Lead Design and Regulatory Coordination
Conducted the feasibility, design, planting plan and nationwide permitting to support the Client's need for stormwater treatment wetlands to reduce phosphorus loading demands. Project created 0.45 acres of open water habitat, 2.48 acres of PEM wetlands and 2.36 acres of PFO wetlands to support nutrient removal from surface water runoff associated with a developed subdivision.

# Bradley J. Petru
## Project Manager

**Harroun Park River Trail Restoration, Lucas County, Sylvania, Ohio**
**Role**: Regulatory, Design and Implementation Lead
Stream restoration on approximately 300 LF of Tenmile Creek in downtown Sylvania, Ohio. Watershed is over 85 square miles and stream channel was heavily impaired by urbanization. Removed debris, implemented two large J-hook structures, soil-geo lifts, live stake planting, live brush layering, and root wad installation. Acquired NWP 27 approval and the jurisdictional determination of associated surface water delineation of aquatic resources. Provided construction quality assurance monitoring and field adjustment consultation as needed.

**Village of Hebron Floodplain Restoration, Village of Hebron, Hebron, OH***
**Role**: Design and Regulatory Support
Coordinated the onsite feasibility, regulatory approval and supported the design of an approximate 10 acre area previously developed into residential dwellings that was selected to be reverted back to floodplain habit along the Licking River. Design included the grading of micro-pool habitat and planting plan.

**Northern Virginia Regional Environmental Bank (NVREB) - Peters Farm, Mitigation Services, LLC, Fauquier County, VA***
**Role**: Lead Design and Regulatory Coordination
Provided Wetland Delineation and Jurisdictional Determination with the U.S. Army Corps of Engineers to document existing site conditions. Directed the site selection, onsite feasibility investigation, aided in regulatory support, and coordinated the full design, plan set development and construction oversight of an approximate 40 acre wetland mitigation bank. All studies, design and construction were completed ahead of schedule and on or below budget.

**Northern Virginia Regional Environmental Bank (NVREB) - Miller Farm, Mitigation Services, LLC, Fauquier County, VA***
**Role**: Ecology and Regulatory Support
Provided design support, corrective and adaptive management, and compliance monitoring and coordination for an approximate 25 acre mixed- habitat wetland mitigation bank.

**Northern Virginia Regional Environmental Bank (NVREB) - Keaton Farm, Mitigation Services, LLC, Fauquier County, VA***
**Role**: Design and Monitoring Support
Provided design support, corrective and adaptive management, and compliance monitoring and coordination for an approximate 35 acre mixed habitat wetland mitigation bank.

**Woods at Warrenton Mitigation Bank, Mitigation Services, LLC, Fauquier County, VA***
**Role**: Design and Monitoring Support
Directed the onsite stream and wetland mitigation feasibility assessments for a 22 acre wetland mitigation bank. Participated in construction monitoring and oversight. Supervised the long term maintenance and management of the wetland including compliance monitoring.

**Whites Mill Branch Restoration, Mitigation Services, LLC, Fauquier County, VA***
**Role**: Design and Monitoring Support
Conducted stream mitigation feasibility and credit assessments before construction. Participated in stream construction oversight. Provided onsite feasibility of proposed wetland design and post construction long term management and monitoring of seven project specific wetland mitigation sites ranging from 0.3 to 3.0 acres in size.

**Thompson Wetland Mitigation Site, The Nature Conservancy, Northumberland County, VA***
**Role**: Lead Design and Regulatory Coordination
Provided wetland delineation, permitting services and mitigation feasibility investigation on 16 acre field for The Nature Conservancy to be allocated to the Virginia Aquatic Trust Fund in-lieu fee program and to generate sellable mitigation credits. Directed the full design of tidal and non-tidal wetlands, facilitated project coordination.

**St. Mary's County Airport Expansion Wetland Mitigation, St. Mary's County Department of Economic Development, St. Mary's County, Maryland***
**Role**: Lead Design and Regulatory Coordination

# Bradley J. Petru
## Project Manager

Conducted property search and feasibility investigation of wetland mitigation to compensate for impacts proposed in the expansion of the runway at the St. Clements Regional Airport in St. Mary's County, MD. Involved soliciting several private landowners, constructability analysis, wetland delineation and approval with MDE/USACE, project coordination, and full design of 7 acres of project specific wetland mitigation across two properties.

**Prince William County Environmental Bank (PWEB), Mitigation Services, LLC, Prince William County, VA***
**Role**: Ecology and Regulatory Support
Provided Wetland Delineation and Jurisdictional Determination with the U.S. Army Corps of Engineers to document existing site conditions at park authority land. Participated with onsite feasibility investigations, aided in regulatory support, and aided in plan set development of an umbrella environmental mitigation bank at Prince William County owned park land. Approximately 20 miles of streams at 10 different parks were proposed for restoration and protection under this banking instrument.

**Annapolis Cove Living Shoreline Project, Maryland DNR and Annapolis Cove HOA, Anne Arundel County, MD***
**Role**: Lead Design and Regulatory Coordination
Directed the onsite feasibility, conducted the design of, and attained local, state and federal regulatory approval (including MD Critical Areas Division), of a tidal shoreline design to stabilize upland and shoreline land loss along approximately 650 linear feet of a community park. Design integrated ecological preservation, buffer restoration and community use of landscape.

**Gibson Road Living Shoreline Project, Private Landowner and MDNR, St. Mary's County, Maryland***
**Role**: Lead Design and Regulatory Coordination
Directed the onsite feasibility, conducted the design of, and attained local, state and federal regulatory approval (including MD Critical Areas Division), of a tidal shoreline design to stabilize shoreline land loss along approximately 720 linear feet of private and public property. Provided construction coordination/oversight and follow up vegetation monitoring and report submission in accordance with regulatory requirements.

**Camp St. Charles Living Shoreline Project, Camp St. Charles, Charles County, MD***
**Role**: Lead Design and Regulatory Coordination
Directed the onsite feasibility, conducted the design of, and attained local, state and federal regulatory approval (including MD Critical Areas Division), of a tidal shoreline design to stabilize upland and shoreline land loss along approximately 650 to 700 linear feet of a Christian summer camp.

**River Cliff Park Restoration, Black Swamp Conservancy, Freemont, OH***
**Role**: Lead Design and Regulatory Coordination Support
Coordinated feasibility, endangered species and cultural resource inventories, and participated in the design of an approximate 60-acre portion of a former 75-acre golf course located on the north bank of the Sandusky River approximately 3,000 feet downstream of the Ballville Dam. Designed the planting plan, bank grading and trail route with the goal of restoring approximately 22 acres of riparian corridors, 9.5 acres of prairie habitat, 6 acres of wet meadows and to provide wildlife habitat. Design included approximately 1,400 linear feet of bank grading and floodplain bench creation along the Sandusky River.

**Forrest Riverland Restoration Site, Black Swamp Conservancy, Paulding County, OH***
**Role**: Lead Design and Regulatory Coordination Support
Coordinated feasibility, endangered species and cultural resource inventories, and participated in the design of stream and floodplain habitat restoration along the Maumee River. Expanded the floodplain along approximately 700 linear feet and realigned approximately 150 linear feet of an unnamed tributary to the Maumee River. Design included the reforestation of approximately 15.8 acres of upland forest, 18.2 acres of bottomland forest and 4 acres of palustrine shrub wetland area.

**Carter Farm Wetland Restoration, Black Swamp Conservancy, Wood County, Ohio***
**Role**: Lead Design and Regulatory Coordination Support
Coordinated feasibility, water budget, endangered species and cultural resource inventories, and participated in the design of approximately 15 acres of mixed wetland habitat restoration on an 80 acre Wood County Park District property. Expanded wetland habitat along an existing second growth forested woodlot containing several existing and proposed vernal pool depressions with walking trails.

# Bradley J. Petru
## Project Manager

**Van Fleet Ditch - Two Stage Ditch Restoration, Lucas County, Monclova, Ohio**
**Role**: Regulatory and Design Lead
Coordinated the field survey and design of a two-stage ditch restoration for approximately 2,500LF. Included constructed riffle and floodplain bench restoration in agricultural landscape.
** Work performed prior to joining CEC*

### TRAINING

Rosgen Level 1: Applied Fluvial Geomorphology

Rosgen Level 2: River Morphology and Applications

Rosgen Level 3: River Assessment and Monitoring

Rosgen Level 4: River Restoration and Natural Channel Design

DRAINMOD: Drainage Modeling - NC State University

Coastal Morphology and Processes – George Mason University

Wetland Hydrology / Water Budgets - The Swamp School

Planning, Site Selection, and Hydrology Models for Constructed Wetlands - Wetland Training Institute

Basics in Forested Wetland Construction - Wetland Training Institute

Basic Wetland Delineator Training - Institute for Wetland & Environmental Education & Research

Intermittent & Perennial Stream Identification for Riparian Buffer Rules, NC & VA - NC State

Wetland Assessment Procedures - Environmental Concern, Inc.

Maryland Biological Stream Survey Spring Sampling - Maryland DNR

Stream Restoration Techniques - USFWS

AutoCad Civil 3D

ORAM - Ohio Rapid Assessment Method

QHEI - Qualitative Habitat Evaluation Index

Stream Functions Pyramid

Stream Quantification Tool (SQT)

### PROFESSIONAL AFFILIATIONS

Society of Wetland Scientists

International Society of Arboriculture

Society for Ecological Restoration

# 3.0 Project Goals and Objectives

CEC recognizes that the Meadow River Wildlife Management Area (WMA) posted the Expression of Interest (EOI) for support siting, designing, and providing construction oversight of wetland and ecosystem restoration projects with the intention of capturing, redirecting, and managing surface water to support the development of waterfowl and other wetland species habitat. In addition to habitat restoration, CEC views this Project as an opportunity to restore valuable floodplain functionality for the following ecosystem services:

1. Reduction of nutrients from rural land use,
2. Management of storm and flood water,
3. Connectivity between the Meadow River, associated tributaries, and their floodplain, and
4. Restoration of important bottomland habitat along an important floodplain corridor in a watershed that has been affected by low pH, iron, aluminum, fecal coliform bacteria and sedimentation from livestock grazing.

**Project Background**

Our review of the EOI has delineated three main goals associated with the request:

- ***Conduct site assessments and feasibility reviews in coordination with the Meadow River WMA staff and work collectively to develop a master restoration plan that emphasizes smart, efficient and achievable restoration approaches that have low-implementation impact to the landscape.***

  The restoration team is comprised of engineers, survey-geomatics specialists, ecologists and regulatory experts that are seasoned to the design hurdles and constraints to execution that could impede project implementation. Our approach would compile any existing background and public data to develop an existing conditions base map. Cultural resources, public utilities, and threatened/endangered species databases are inventoried to anticipate regulatory or utility conflicts that could require additional documentation and affect schedule of implementation.

  Our field assessments, including photographic documentation, hand auger investigations, surface water delineations, and topographic surveys would run concurrent to those database inventories. The topographic survey would include the capturing of unique field data such as ditches, culverts, pipes, utilities, access points, and other relevant field data within and adjacent to the workspace. This information is combined to the existing conditions base map to support design, Clean Water Act permitting, and construction implementation.

- ***Develop design concepts and construction plans, acquire regulatory approvals, and provide project and schedule management necessary to achieve Goal 1 within the project budget.***

  Our staff approach restoration projects work through a multi-phase sequence that originates as a 10% complete conceptual rendering. As existing conditions data becomes integrated, site constraints are recognized, and objectives are defined, CEC will work with the Meadow River WMA staff to arrive at 30% to 100% complete plan set milestones that capture the evolution of the Opinion of Probable Construction Cost (OPCC), allowing the Team to manage goal attainment within available funds and schedule. During the development of the restoration approach, from conceptual to final design, our regulatory staff are coordinating with state and federal agencies for Clean Water Act approval and other regulatory certifications to support project implementation during optimal time of year site conditions.

  Our approach in administering the scope of service commences with a project kickoff meeting that includes representation from CEC Project Management, the Meadow River WMA staff, and their stakeholders for a knowledge transfer of historical site conditions and strategies that have been employed on other Meadow River WMA lands that should be considered as part of this Project. Your experience will be instrumental in our understanding the goals and objectives, previous land management, historical wet signatures, and land use and changes over time.

- ***Provide construction contracting bid documents and assist the Meadow River WMA with construction administration services to support the selection of a competent contractor and oversight of those professionals to support to construct the Project as designed.***

  As the permitting process concludes, CEC will support the Meadow River WMA with contractor bid-documents, procurement, and implementation oversight. CEC routinely works in the public sector area as the representative of municipalities and agencies to procure contractor services to implement our restoration designs. We work with contractors directly as design-build teams and we routinely develop contractor bid documents for municipalities and support their requests for information during bid periods. Based on budget availability, CEC can provide daily, weekly or periodic contractor field documentation visits to determine if the contractor is implementing the project per the engineering plan set.

  We have provided the following content, including project examples, to speak to our ability to meet and exceed those objectives.

*Sycamore State Park*

# 4.0 Relevant Project Experience

CEC brings extensive experience partnering with municipalities and stakeholders to deliver ecological restoration projects that integrate habitat enhancement, water quality improvement, and public engagement. For this project, we are prepared to collaborate closely with WVDNR and its partners from concept through construction to ensure thoughtful use of surface water resources and meaningful community involvement.

CEC's interdisciplinary team of environmental scientists, water resource engineers, and landscape architects will serve as an extension of WVDNR, identifying opportunities for ecological, recreational, and educational enhancements. We also support clients in securing supplemental grant funding to expand project impact



**Sycamore State Park ILF**
**Owner:** The Nature Conservancy
**Owner Contact:** Amelia Harris, amelia.harris@tnc.org
**Location:** Trotwood, OH
**Design-Build Contract Value:** $2.6M

**Description:** CEC developed a plan to provide 8,500 LF of Type 1 Level 1 and 812 LF of Type 1 Level 4 stream mitigation, 53.9 acres of forested headwater wetland restoration, and approximately 93.7 acres of riparian buffer enhancement and restoration. Natural channel design was used and incorporated valley cutoff logs, rock cross vanes, rock constructed riffles, new channel establishment, floodplain grading, and toe wood. A majority of the honeysuckle bush was ground down to the stump and treated with herbicide by the CEC Team and additional treatment of weeds in the seedbank within the agricultural fields is being conducted by TNC throughout the summer of 2023. To date, 9,828 live stakes were installed along the restored stream channels and 80,215 bare root trees are scheduled for wetland, riparian buffer, and upland planting in the spring of 2024.

**Dillon Reservoir Wetland Treatment Train Project**
**Owner:** Rural Action
**Owner Contact:** Nate Schlater (nate@ruralaction.org)
**Location:** Muskingum County, OH
**Design-Build Contracted Value:** $1.1M

**Description:** The Dillon Reservoir Wetland Treatment Train Project is a design-build opportunity that will go to construction in the late summer of 2024. The project consists of approximately 98 acres of farm field on the floodplain of the Licking River, located upstream from Dillon Lake, owned by the United States of America, and managed by the Ohio Department of Natural Resources. Approximately 16.9 acres of bottomland floodplain restoration and 81 acres of upland forested restoration has been designed within a regulated flowage easement. Project challenges included the management of a stakeholder group, each with their own set of concerns and deliverables, including the ODNR-H2Ohio Funding Manager, Rural Action, ODNR-Division of Wildlife, USACE Office of Real Estate, USACE Surface Water Regulatory Division, USACE Hydrology Team, USACE Mitigation Team, Ohio Department of Transportation, State Historic Preservation Office and the USACE Archeological group. Phase 2 cultural resource investigations were conducted with a tow-behind magnetometer to investigate the possible presence of sub-surface burial mounds and pre-historic native American encampments which resulted in memorandum of agreements between ODNR and the USACE. The goal of the project is to remove land from agricultural production, restore floodplain habitat, and use wetland function to filter runoff from agricultural landscapes within the watershed.

**Harroun Park Stream Restoration**
**Owner:** City of Sylvania
**Owner Contact:** Joe Shaw (jshaw#cityofsylvania.com)
**Location:** Lucas County, OH
**Design-Build Contracted Value:** $818,000

**Description:** The Harroun Community Park encompasses portions of Tenmile Creek, North Tenmile Creek, and the Ottawa River. All three watersheds are subject to intensive urbanization and agricultural land-use that have resulted in channel straightening, rubble bank protection, bank erosion and lateral migration, resulting in channel widening and habitat loss. CEC was contracted by the City to assist in stabilizing the stream banks along an approximated 1,300 LF portion of these stream channels across two phases. Natural Channel Design methods were used to establish stable form, profile and in-channel habitat. In-channel hydraulic and biodiversity habitat included riffle construction, reinforced earth geo-lifts for stream bank restoration, live-brush layering, live-stake planting and native seed, J-Hook structures, root wads, and toe-wood. Regulatory permits obtained USACE< CWA 404/401 Nationwide Permit 27, FEMA Floodplain Approvals, and Ohio EPA Stormwater NOI for Construction. Project challenges include shallow bedrock, buried fill, utility infrastructure, eroding bridge piers, and pedestrian trespass during construction. Field adjustments were made to avoid mature trees and their roots, bedrock, and to stabilize highly erodible slopes adjacent to public infrastructure. Project construction was completed and planted April 2024.

**Indian Lake State Park Natural Infrastructure**
**Owner:** Ohio Department of Natural Resources
**Owner Contact:** Natalie Foos (Natalie.foos@dnr.ohio.gov)
**Location:** Lakeview, Logan County, OH
**Design-Build Contracted Value:** $750,000

**Description:** The Ohio Department of Natural Resources (ODNR) received a grant from the Ohio Water Development Authority for the installation of natural infrastructure for nutrient reduction and habitat improvement at Indian Lake State Park, located in Bellefontaine, Ohio. The ODNR issued a sub-award to the Indian Lake Watershed Partnership (ILWP), who contracted with CEC for a Design-Build contract to implement the project. CEC worked with the ILWP and ODNR to evaluate multiple sites within the Park's public campground to maximize the opportunity for capture of runoff throughout the campground as well as capture of upstream drainage flowing through the park.

Three sites within the campground were identified for retrofitting of stormwater best management practices and shallow wetland restoration to treat runoff. Approximately 3.50 acres of urban turf will be converted to micro-depressional wetland habitat and bioswales. The project is in the design phase and is slated for construction in early summer 2024.

*Indian Lake*

Civil & Environmental Consultants, Inc.

# TOMLINSON RUN STATE PARK TRAIL IMPROVEMENTS

## OWNER/CLIENT

West Virginia Division of Natural Resources

## LOCATION

New Cumberland, WV

## CEC SERVICES

ADA Accessibility Analysis

Landscape Architecture/Land Planning

Bathymetric/Hydrographic Surveys

LiDAR Surveys – Short and Long Range

## OWNER OBJECTIVE

The West Virginia Division of Natural Resources (WVDNR) is a state agency that manages and protects natural resources in the state, from wildlife resources to state parks. According to the West Virginia Department of Commerce, WVDNR preserves and protects natural areas of unique scenic, scientific, cultural, archaeological, or historic significance while also providing countless outdoor recreational opportunities for West Virginia residents and visitors.

To complement a stream mitigation project within Tomlinson Run State Park, the WVDNR wished to make a new trail alignment and enhance the amenities found along these trails. This would improve the visitor experience at the State Park and encourage visitors to be more engaged with the surrounding park ecosystem. Tomlinson Run State Park is located near the top of the northern panhandle in West Virginia. The 1,398 acres include a heavily forested wilderness area and a developed area with traditional park amenities, such as hiking, fishing, boating, swimming, and camping.

## CEC APPROACH

Following the analysis of existing site conditions and the proposed stream mitigation design, CEC proposed a trail alignment that best followed the improved stream and wetland areas. Identified platform locations were chosen following the analysis and were based on areas with the best fishing access or the best views.

The stream mitigation project included the transformation of three earthen dam ponds into wetlands and the restoration of the South Fork Tomlinson Run for improved fish habitat. Our proposed trail improvements complement the mitigation project and showcase the work that was completed. Care had to be taken during the design phase of the project to ensure that the proposed improvements were ADA compliant, due to the steep terrain found at the site.

The final design included approximately 3,000 feet of trail improvements, six fishing platforms (three of which are ADA compliant), two overlook platforms with views of the wetlands, a bird blind, and interpretive signage explaining the surrounding wildlife and the importance of the environmental work being completed. The final design enhanced park amenities for visitors. The project is under construction and is expected to be completed in July 2022.

Civil & Environmental Consultants, Inc.

# STOUTS RUN STREAM AND WETLAND MITIGATION

## OWNER/CLIENT

Genesis Partners, Limited Partnership

## LOCATION

Bridgeport, WV

## CEC SERVICES

Aquatic and Terrestrial Habitat Surveys

Clean Water Act, Section 401/404 Permitting and NEPA

Fish and Macroinvertebrate Surveys

Threatened & Endangered Species Surveys/Wildlife Surveys

Wetland & Stream Mitigation Design-Build Services

Wetlands and Waters Delineations

Performance Monitoring

Vegetation Management

## OWNER OBJECTIVE

Genesis Partners, a real estate developer, is working to create a premier, master-planned development at Charles Pointe in northern West Virginia. The nearly 1,300-acre site will include space for residential, commercial, recreational, and light industrial use.

## CEC APPROACH

CEC was hired to obtain Clean Water Act 404 and 401 permits for the project from the U.S. Army Corps of Engineers (USACE) and West Virginia Department of Environmental Protection and to design and implement permittee-responsible, on-site stream and wetland mitigation for nearly 4 miles of stream restoration and 9 acres of created wetland. The 404 and 401 Permit applications included a detailed alternatives and analysis and an ecological assessment to address USACE's NEPA requirements.

CEC designed the mitigation area to include open space and recreational opportunities with walking trails and pedestrian bridges across Stout's Run and adjacent wetlands. The headwaters of Stout's Run originate on-site and the stream flows southwest throughout the site, creating a unique opportunity to restore much of the existing sub-watershed, while also providing a park-like setting in the backyards of the proposed residential developments.

Development and mitigation are occurring in phases to meet the needs of the community and the City of Bridgeport, West Virginia. CEC completed the first phase of mitigation as a design/build project, which offset stream and wetland impacts from development of residential housing and recreational facilities. Phase 2 of the mitigation is currently underway.

Civil & Environmental Consultants, Inc.

# KANAWHA-YEAGER FORK MITIGATION BANK

## OWNER/CLIENT

Ecosystem Investment Partners, LLC

## LOCATION

Ripley, WV

## CEC SERVICES

Erosion & Sedimentation Control/ NPDES Permitting

Geotechnical Engineering

Site Grading/Earthwork Analysis

Stormwater Management/BMP Design

Aquatic & Terrestrial Habitat Surveys

Clean Water Act, Section 401/ 404 Permitting

Ecosystem Restoration

Fish and Macroinvertebrate Surveys

Invasive Plant Management

Pesticide Application

Threatened & Endangered Species Surveys/Wildlife Surveys

Water Quality & Sediment Surveys

Wetland & Stream Mitigation Design

Wetlands & Waters Delineations

Construction Quality Assurance

Erosion & Sedimentation Control

Water Quality & Quantity Modeling

Watershed Planning and Restoration

As-built Surveys

Boundary Retracement Surveys

Horizontal & Vertical Control Surveys

LiDAR Surveys—Long- and Short-Range

Topographic Surveys

Unmanned Aerial Services

Volumetric Surveys

Construction Management

GPS/GIS Services

IBC Inspection Services

## OWNER OBJECTIVE

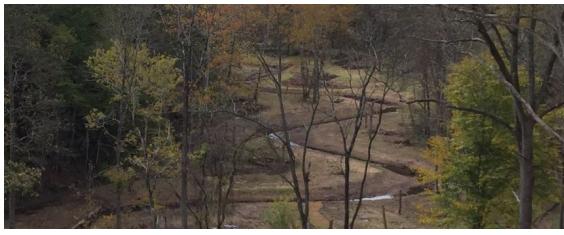
Ecosystem Investment Partners (EIP) is a private investment manager that delivers ecological restoration and conservation projects across the United States. Through EIP investment funds, EIP acquires, restores, and permanently protects priority conservation properties, and sells the generated credits to customers who must offset their unavoidable environmental impacts. EIP works closely with state and national conservation agencies and non-profits to coordinate restoration efforts and provide public access to restored lands.

The Kanawha-Yeager Fork Mitigation Bank is located in the streams and valleys of the western Appalachian plateau. Restoration efforts address severe sediment impacts resulting from extensive agricultural and timber harvest activities over the past century. Severe erosional impacts present challenges to restoration in addition to regulatory permitting and abandonment of state-owned right-of-ways.

## CEC APPROACH

CEC applied a geomorphologic sound engineering approach developed through decades of hydrological and ecological research and project implementation. Through extensive knowledge of regulatory requirements and constant communication with federal regulatory agencies, CEC successfully permitted and designed 10,900 feet of stream restoration and 1,200 feet of stream creation. Project implementation included collection of aerial, topographic, planimetric, and geomorphic survey data, stream and wetland delineations and aquatic resource determinations, calculation of West Virginia Stream and Wetland Valuation Metric (SWVM), rare threatened and endangered (RTE) species surveys, civil engineering, geotechnical rock exploration to produce onsite boulders for hydraulic structures, and development of supporting information for regulatory approval, including erosion and sediment (E&S) control plans. An additional 3,900 feet of stream enhancement increased the diversity and abundance of riparian vegetation and 6,000 feet of preservation will protect existing high-quality ecological features. The overall ecosystem restoration includes eradication of non-native species within the project boundaries and replacement by a diverse assemblage of native vegetation. CEC performed construction quality assurance (CQA), completed post-construction as-built surveys, and generated credit release reports on behalf of the ecosystem restoration client. CEC's work has improved degraded resources and protected healthy resources within the Lower Kanawha River watershed. CEC will provide annual monitoring.

*Yeager Before Restoration*



*Stream Restoration During Construction*

Civil & Environmental Consultants, Inc.

# OXBOW MITIGATION BANK

## OWNER/CLIENT

Ecosystem Investment Partners

## LOCATION

Macfarlan, WV

## CEC SERVICES

Erosion & Sedimentation Control/NPDES Permitting

Geotechnical Engineering

Site Grading/Earthwork Analysis

Stormwater Management/BMP Design

Aquatic & Terrestrial Habitat Surveys

Clean Water Act, Section 401/404 Permitting

Ecosystem Restoration

Fish and Macroinvertebrate Surveys

Invasive Plant Management

Pesticide Application

Threatened & Endangered Species Surveys/Wildlife Surveys

Water Quality & Sediment Surveys

Wetland & Stream Mitigation Design

Wetlands & Waters Delineations

Construction Quality Assurance

Erosion & Sediment Control Design and Inspection

Stream Assessments and Restoration

Watershed Planning and Restoration

As-built Surveys

Boundary Retracement Surveys

Horizontal & Vertical Control Surveys

LiDAR Surveys – Short and Long Range

Topographic Surveys

## OWNER OBJECTIVE

Ecosystem Investment Partners (EIP) is a unique private investment manager that delivers the highest quality ecological restoration and conservation projects across the United States. Through EIP investment funds, EIP acquires, restores and permanently protects priority conservation properties, and sells the generated credits to customers who must offset their unavoidable environmental impacts.

The project occupies the valleys and floodplains of the Appalachian plateau heavily impacted by timbering and energy development. The large geographic footprint, magnitude of stream length and wetland restoration acreage, complex regulatory requirements, and cross-discipline knowledge required to address the diverse project components create challenges for this project.

## CEC APPROACH

Specific challenges were typically unrelated to ecosystem restoration, including relocation and plugging of oil and gas infrastructure, abandonment of West Virginia Department of Transportation (WVDOT) Right-of-Ways, and development of onsite rock borrow areas. Each task required CEC to collaborate within and across Service Groups to implement technical and cost efficient solutions.

This project successfully restored approximately 26,000 feet and enhanced about 48,000 feet of stream. Restoration and enhancement improve a combination of geomorphic stability and riparian habitat, both of which increase aquatic and overall ecological function. Preservation of approximately 100,000 feet of stream and approximately four acres of wetland protects existing ecologically healthy resources. A deed restriction protects the entire property from future impacts, allowing the site to evolve naturally for posterity.

Successful site restoration met the mitigation banking requirements set forth in 33 CFR 332, thereby meeting EIP's needs of developing mitigation banks for compensatory mitigation credits. Additionally, CEC successfully developed Stormwater Pollution Protection Plans, Erosion & Sediment Control Plans, National Pollutant Discharge Elimination System Construction Stormwater Permit submittals, and various other USACE, USFWS, WVDNR, and WVSHPO submittals to facilitate project implementation.

Annual monitoring assesses design and construction integrity and ensures continually improving ecological health. Financial assurances provided by EIP ensure that occasional issues identified during monitoring are remedied to ensure optimal performance of the restored property.

# 5.0 References

**Harroun Park Community Park Trail Stream Restoration Project**
Joseph E. Shaw, PE, PS
Deputy Director City of Sylvania
Department of Public Service
6730 Monroe Street, Sylvania, OH 43560
419-885-8967
jshaw@cityofsylvania.com

**Upper Scioto and Little Miami Mitigation Banks**
Wade Waltimyer
Senior Ecologist, Managing Partner
2570 Commerce Parkway
North Port, FL 34289
941-426-7878
wwaltimyer@earthbalance.com

**Dillon Lake Treatment Train Wetland**
Nate Schlater
Senior Director of Ecological Restoration
19627 Walnut St.
Trimble, OH 45782
740-677-4047 ext.360
water@mondaycreek.org

**Sycamore State Park ILF Stream and Wetland Restoration**
Devin Schenk, ILF Program Manager
The Nature Conservancy
6375 Riverside Drive Suite 100
Dublin, OH 43017
614-717-2270
dschenk@tnc.org

**Three Creeks MetroPark H2Ohio Wetland**
Kelly Messer, PE
Columbus Recreation and Parks Department
1111 East Broad Street
Columbus, OH 43205
614-816-1875
knmesser@columbus.gov

*Upper Scioto Stream*

# 6.0 Additional Forms

**DESIGNATED CONTACT:** Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Jim Christie, PLA - Principal

(Address) 3574 Teays Valley Road · Hurricane, WV 25526

(Phone Number) / (Fax Number) 304-933-3119 / 304-933-3327

(email address) jchristie@cecinc.com

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through *wv*OASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

*By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.*

Civil & Environmental Consultants, Inc.
(Company)

Jim Christie
(Signature of Authorized Representative)

Jim Christie, PLA
(Printed Name and Title of Authorized Representative) (Date)

304-933-3119 / 304-933-3327
(Phone Number) (Fax Number)

jchristie@cecinc.com
(Email Address)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DNR2600000003

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

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

Addendum Numbers Received:
*(Check the box next to each addendum received)*

| | |
|---|---|
| ☐ Addendum No. 1 | ☐ Addendum No. 6 |
| ☐ Addendum No. 2 | ☐ Addendum No. 7 |
| ☐ Addendum No. 3 | ☐ Addendum No. 8 |
| ☐ Addendum No. 4 | ☐ Addendum No. 9 |
| ☐ Addendum No. 5 | ☐ Addendum No. 10 |

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

Civil & Environmental Consultants, Inc.
Company

Jim Christie
Authorized Signature

12/3/2025
Date

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

Civil & Environmental
Consultants, Inc.

3574 Teays Valley Road | Hurricane, WV 25526 | www.cecinc.com